“FIELDS ON WHEELS”

Proceedings of the First Annual Agribusiness Logistics Conference
Held at Winnipeg, Manitoba
Monday, November 25th, 1996

Edited by

Dr. Barry E. Prentice and Michael Butt

Occasional Paper No. 15

Transport Institute, University of Manitoba
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Preface

Conference delegates assembled at the Lombard Hotel on 25 November 1996, to hold “Field on Wheels”: Manitoba’s First Agribusiness Logistics Conference. Their collective experiences in industry and government provided what subsequently became a rich understanding of Manitoba’s food processing and producing industry. Despite their varied experiences, a common link to emerge from the discussions held was a common interest in developing strategies to overcome the barriers transportation posed in this increasingly competitive environment.

The conference was opened by the Hon. Harry Enns, Minister of Agriculture, who delivered an address that highlighted the new environment within the world of agribusiness. He touched on the role of transport in the development of pork export markets, changing logistics in marketing Manitoba’s processed potatoes, agriculture trucking in the post rail subsidy era, and spoke of a blueprint for a commercial, least cost, logistics management system for grain.

In the first morning session The Role of Transport in Export Market Development of Pork, Dr. Barry E. Prentice demonstrated the usefulness of applying a “gravity model” for pork market-penetration analysis and in estimating the elasticity of demand. Prentice concluded that transportation and logistics costs were critical to the success of Manitoba’s pork industry. More broadly, he suggested that there were possibilities to expand the model’s use to study new opportunities for Manitoba pork in Mexican markets. The same model, he felt could also be applied to other agribusiness products.

Bill McLean, J.M. Schneider’s, and Dave Tardi, Atomic Transport, outlined changes in the marketplace and McLean emphasized the sensitivity of transport costs to his company’s operation. A rate increase by a quarter of a cent a pound would remove more than a million dollars from the bottom line. He also predicted future growth in overseas markets in the years ahead but suggested that this was largely dependent upon “how well we manage our transportation system.” Tardi looked at the integration and alliances struck between companies like Atomic and Schneider in the efforts to penetrate new North American markets and also considered the problems of crossing international borders. He emphasized the hurdles that impede transport service providers -- the need to achieve greater standardization in terms of weights, trailer sizes, and in hours of service regulations. It was agreed that communication between the exporter and the carrier was essential.

In the session Changing Logistics in the Market for Manitoba Processed Potatoes, Phil Suggett, from Midwest Foods Products, began by briefly sketching the history of MFP since 1961. He then turned to examine the central transportation problem the company faced which occurred at the “farm gate.” In an era in which companies like Midwest received between 14 000 to 16 000 truckloads of potatoes annually and which was likely to increase to 22 000 or 23 000, Phil felt, there was a need to achieve better transport coordination. In this new competitive environment large-scale processing operations ideally want to remove delivery responsibilities from farmers and instead simply negotiate a transport fee. However, for a number of reasons that include -- price, loss of job control, etc., many farmers remain skeptical and wary of these new initiatives and this turn towards increased integration of logistics operations. Finding a win-win situation and overcoming resistance, Suggett concluded, is essential to the future of the industry.

Dr. Mervin Pritchard, a professor in the Department of Plant Sciences felt that part of the key towards future industry success and one common to both producer and processor was the quality of the product. Both groups, Pritchard suggested, were benefiting by research specifically geared to increase our understanding of the conditions in which potatoes are stored. He reminded us that “potatoes are unforgiving” and he suggested, “they will not respond well if you do not treat them well initially.” Pritchard noted that during his tenure in industry substantial progress had occurred. New storage technologies had emerged which promised to alter its landscape. Quality enhancing through temperature and humidity control would become standard practice in the years ahead. Change, he suggested, is also occurring within the industry-- particularly in the relationship struck between processors and producers-- in an effort to assess product quality.

Gary Sloik, Secretary Manager of Keystone Vegetable Producers and as a seed producer himself for the past 12 years, has seen first hand, two sides of the equation. Sloik compared the importance of transport in potato production
with that of wheat. His comments highlighted the general theme “field of wheels”, by reminding us that in wheat production one truckload services fifteen acres of product whereas in potato production the ratio is one truckload per acre. Continued development of successful transport networks was crucial to the future of the industry. As a producer, Sloik suggested that one of the key problems in the 1990s is farm employment, and that it is transport that is the one job that “gives us an opportunity to keep quality people on a year-round basis.” It is this “human factor” combined with ‘loss of control” over product through contract hauling that makes the producer wary of the changes sought by large-scale processors.

Peter Holle, Director of the Prairie Center, made the luncheon address, Lessons from New Zealand on Agriculture Marketing. His paper, by implication, suggested there are many similarities between the old archaic regulatory environment in which New Zealand operated and slowly evolving Canadian one . . . He concluded by remarking that

The afternoon session was opened by Dr. Ed Tyrchniewicz, Senior Fellow, International Institute for Sustainable Development who introduced Agricultural Trucking in the post-rail subsidy era, the first subject to be discussed. Jake Kosior, Transport Institute Associate, spoke about what he expected would be the continued rise of trucking in the post rail subsidy era and outlined the transition in terms of equipment that would be operated by those persons engaged in the movement of farm product. Brian Murray, of Trimac Transportation Corporation, offered a carrier’s perspective. He explored in detail the complexities of backhaul loads in rate adjustment and the decisions companies faced in setting prices. Off-setting the effects of rail line abandonment, he also suggested, were short-line operators. We are now entering a period in which “non-traditional” equipment and carriers are replacing those once familiar. Verna Hiebert drew from her experience in the grain and agri-sales section of Manitoba Pool Elevators (MPE). She spoke of a number of changes under way at MPE, which included a new scheduled pick-up program “Smart Haul”, and a new elevator on wheels “Mobiloard”. Safety was an issue that also emerged in several of the early afternoon presentations.

Following a short break conference attendees dealt with the question of existing options and strategies available for transport logistics management in the grain industry.

Dr. Paul Earl, a policy advisor for the Western Canadian Wheat Growers Association, spoke on behalf of the Prairie Farm Commodity Coalition and offered a “Blueprint” of how transportation policy and practice and as he suggested “the so-called ‘car allocation’ system should be designed for the post-WGTA/post-WGTO world.”

Brian Hayward, CEO of United Grain Growers Limited offered “a SEO & CAPG perspective” on negotiations within the industry and explained what happens at behind-the-scenes senior executive officers agri-business meetings. It was the severe flooding of the Mississippi in 1993, and the grain movement’s peak, which he reminded us occasioned the first “SEO” meeting convened by GTA veteran Peter Thomson.

Maria Rehner offered a commentary on both the afternoon papers. Her legal counsel focused on the particular mechanisms for enforcement and resolution that were missing in current strategies. She also dealt with the changing climate in the U.S.-- increased hostility towards open borders which she felt would be the hallmark of Western American producers behind-the-scenes lobbying efforts in the 105th Congress.

Dr. Daryl Kraft, Department of Agricultural Economics, drew the conference to a close. He summed up the major themes touched during the full day of papers and discussions. The morning session, he suggested, at their core “boiled down to issues of capital shortfall.” He felt that if the returns and incentives were there, than adequate solutions for producers and processors in the transportation of product would occur. He seemed less assured that there would be adequate redress for the discussions held in the afternoon. The problem that the afternoon session seemed to focus on, he characterized as “a change in cost of supplying services.” This led to general discussions of questions of the viability and future organization of the transport network in the Prairie Provinces and the potential continued rise of the trucking industry in the movement of agricultural product. Debates, he suggested, in future, will “center around the success or failure of known technologies and hopes for innovation instead of revisiting deregulation.”
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Good Morning, my name is Barry Prentice, I am the Director of the Transport Institute at the University of Manitoba. I would like to welcome you all to the second annual Fields on Wheels Agribusiness Logistics Conference which is jointly sponsored by the Transport Institute and the Department of Agricultural Economics at the University of Manitoba. This is a special conference today because it is dedicated to the memory of one of the pillars of the transportation community who just recently passed away, Vic Stechishin. The proceeds from the conference will be donated towards a scholarship in his name at the University of Manitoba for at student in the Certificate in Logistics Program. I would like to say a few words about Vic and then read aloud some comments from some of his friends.

Few individuals have made as great a contribution to transportation issues facing Western Canada as Vic Stechishin. He was intensely involved in all areas of transportation and worked tirelessly to improve professionalism in the field. He began his career in 1941 when he assumed responsibility for transportation at the number 7 Equipment Depot of the Royal Canadian Air Force. He was a founding member and President of the Winnipeg Transportation Club in 1958, 59 and 1960. He was the President of the Canadian Transportation Research Forum in 1977 and 78. He was the National President of the Canadian Institute of Traffic and Transportation in 1963/64. He conducted a course on traffic and transportation with the Extension Department at the University of Manitoba. He was an associate of the Winnipeg Chamber of Commerce for 50 years. Vic served as an expert witness before five Royal Commissions on transportation and was a research consultant to the Royal Commission on Northern Transportation. In 1965 he traveled to Thailand on assignment under the Colombo Plan and was on the United Nations List of approved International Consultants. I think some of the comments from people who made contributions to the scholarship fund speak louder to his character than I can. The first comment is an excerpt from a letter I received from Craig Dickson:

I was saddened to learn of Vic's death. I first met him in 1960, but prior to that I knew of him and his work with the Manitoba Transport Commission in the mid 1950s. Over the years we worked closely on many transportation issues affecting our respective regions. Vic had some interesting stories and experiences in transportation, including one on how he first became involved in transportation. Prior to World War II Vic had served as a “newsie” on CP passenger trains selling, in his words, “stale sandwiches and cold coffee to passengers.” He subsequently joined the military. When a problem developed in the payment for freight charges for the military supply base in Winnipeg the officer in charge noticed that Vic had worked for the CPR before enlisting and so, in true military fashion, he was placed in charge transportation despite having no training or accounting experience. As he learned his job by trial and error, he realised that transportation was something that could be managed. As a result, when the war was over he began his career in transportation. And an outstanding career it was!

The next excerpt comes from a letter by Dr. John Heads, Director of the Transport Institute from 1988 to 1992:
I was sorry to learn of Vic Stechishin’s passing. Like all of us I held Vic in very high regard for his great knowledge of transportation, his technical expertise, his kindness and warmth, and his delicious sense of humour. Shortly after my arrival in Manitoba I committed the unforgivable error saying he was Russian instead of Ukrainian. He corrected me, saying, “John, to call a Ukrainian a Russian is like calling an Englishman a Scotsman. No, it’s worse, it’s like calling a Scotsman an Englishman.” On another occasion he patiently explained to me that when two Ukrainians were discussing any issue they had at least three points of view. Apart from these gems of general knowledge I learned a great deal from Vic about transportation during the 30 years I had the pleasure of knowing him. He will be sorely missed.

He will be sorely missed, but he will not be forgotten as we are honouring Vic Stechishin with an annual Transportation Scholarship. We appreciate your participation in this scholarship. In fact, the proceeds from this conference will be donated to the "Vic Stechishin Transportation Award".

My next honour is to introduce the Opening Remarks from the Minister of Highways and Transportation, the Honourable Glen Findlay. Mr. Findlay was elected to the Manitoba Legislature in 1986 as MLA for Virden and served as Progressive Conservative chief critic for agriculture. From 1988 to 1990 he served as Minister of Agriculture and Minister responsible for Telecommunication. In 1990 he was elected MLA for Springfield, holding the same responsibilities until 1993 when he was appointed Minister of Highways and Transportation retaining responsibilities for Telecommunication.

Mr. Findlay has a background similar to some of us in this room. He received his B.Sc. in Agriculture and a Masters degree from the University of Manitoba. After receiving his Doctorate in Nutritional Science from the University of Illinois, he did Post Doctorate Research with the National Research Council of Canada. In September 1977 he was a Professor in the Faculty of Agriculture at the University of Manitoba. He returned to full time farming in 1978, and since his election his farm has been operated by his son and daughter-in-law. In addition to his work in professional organisations, Mr. Findlay has been involved in numerous community activities. Glen and his wife Kay have four children and several grandchildren. Please welcome Mr. Findlay.

Honourable Glen Findlay
Manitoba Minister of Highways and Transportation
Opening Remarks

Thank you Barry. It is indeed a pleasure to have the opportunity to say a few words to you this morning before you open your conference in recognition of someone who made contributions over many years to the industry. Creating a scholarship is very important in this day and age because of the rising costs of education. I would like to congratulate you on behalf of Premier Filmon and the Government of Manitoba on your Second Annual Agribusiness Logistics Conference. The term "Fields on Wheels" likely has a different ring for me than it does for
many of you, as a farmer and as Minister of Highways and Transportation. Today I am going to comment on the challenges we face not only in Manitoba but across every province in this country particularly the prairies.

What I see happening is change in every field, in telecommunication, transportation and in agriculture. And I guarantee that in the next ten years yet more will happen. For example, when I was Minister of Telecommunication we had a crown corporation. Now it is served by the private sector, which is as it should be.

Western Canada is one of the bread baskets of the world and, despite disruptions here and there, we have done an excellent job over the decades of moving product to export markets, especially compared to other parts of the world. The grain handling system is particularly complex and involves a high level of integration. Given the unique challenges we face — great distances and harsh weather, for instance — the system does on the whole work very well. We have to recognize there are some problems but must work progressively within the system to find solutions. A good example is the recent change to the Crow benefit. For many decades the Crow rate inhibited diversification and value-added activity in agriculture, which would have provided more jobs in Western Canada. Since its elimination there has been a tremendous stimulation of diversification and value-added processing of grain products in Western Canada resulting in the export of higher value products and more jobs beyond the farm gate.

Changes to the Canadian Transportation Act (CTA) have also had an impact on Western Canada’s grain transportation system. In particular, the CTA expedites further branch line abandonment meaning more grain will be trucked greater distances (i.e. more truck miles). More truck miles means more jobs in rural positions all across Western Canada. For example, I have seen trucking companies emerge out of nowhere with five trucks expand to twenty or twenty-five trucks in no time.

There has been a tremendous increase in investment in value-added industries throughout Manitoba and in the other Prairie Provinces. Examples include the Isobord plant in Elie, new oil seed plants, flour mills and french fry processing plants. Generally speaking these developments mean more miles of truck travelling on municipal and provincial roads across the three Prairie Provinces. This will add to the challenges we already face in our rural transportation network. In Manitoba we have a network of some 18,000 kilometres of roads, and 2800 bridges and structures. I mention bridges and structures because they are a very critical element of the network representing an asset of $5.5 billion. Many of these rural roads and bridges were built in the 1960’s and 1970’s when truck weights were around 44,000 lbs. Today B-trains weigh up to 138,00 lbs! It is not difficult to see that structures built to carry one quarter of the load are having trouble carrying the kind of loads that we run on the roads today.

The primary element of this road network is, of course, our national highway system or the Trans Canada network (Hwy 1, Hwy 16, Hwy 75). Since 1985 we have spent $100 million expanding (to four lanes) Hwy 75 south to the U.S. and the perimeter around Winnipeg. Although Hwy 75 represents only 5 percent of our total road network, it
carries 29 percent of all the traffic. Much of that traffic is commercial truck traffic. The provinces have been responsible for a long period of time, with some federal help, to build and maintain this road network, particularly the Trans Canada network. The provinces have been investing as much as they can from available revenues such as fuel taxes. In Manitoba we collect $160 million annually in fuel taxes of which $106 million goes into capital projects (i.e. bridges and roads) and $54 million goes toward maintenance. In other words, we are only investing 2 per cent back into our $5.5 billion asset each year. Clearly the system is deteriorating faster than we can possibly rebuild it from available revenues. In Manitoba we have argued for a long time that the Federal Government has a responsibility to invest back into the system the $5 billion it extracts annually in Canada in the form of fuel taxes. From Manitoba the Federal Government collected some $155 million in fuel taxes in 1996 but none of that revenue will be reinvested into the provincial road network. Indeed, the provinces have argued collectively that the Federal Government has a clear responsibility to reinvest in provincial infrastructure, especially given the impact other federal legislation is having on that infrastructure (i.e. the CTA, branch line abandonment and increased truck traffic). The Federal Government has contributed some. For example, between 1992 and 1996 $35 million was invested in Manitoba under the Strategic Highway Initiative Program (SHIP). However, now, when pressure on the network is the greatest, the provinces are without help. Of the $140 million infrastructure adjustment fund that was created to help with the effects of elimination of the Crow, only $26 million came to Manitoba. Moreover, the Federal Government has decided that none of those monies should go into road infrastructure, despite the lobbying of the municipalities and farm organisations. This is our great dilemma: we are unable to build; we can only put our money back into the system. For instance, we generally put about $25 million (25 per cent of our capital) into the Trans Canada network each year just to deal with the wear from increased traffic volumes. In allocating funds our first priority is commercial, that is, how can our roads best serve commercial needs. So we look at the roads with the highest commercial traffic volumes — the major PTHs — and try to ensure that they are efficient and competitive.

Since the Free Trade Agreement and NAFTA north-south trade has grown substantially. Manitoba’s exports to the United States have more than doubled since 1990, from $2 billion in 1990 to $4.5 billion in 1996. These numbers are likely to rise yet further in the next few years. Consequently commercial truck traffic on our networks is growing. The trucking industry is also experiencing consolidations, mergers and alliances as firms attempt to remain competitive in the North American market.

Other modes — rail, marine and air — are also changing to meet the needs of today. Clearly all modes are focused on efficiency and cost effectiveness/competitiveness and they must continue to maintain that focus into the next century. For our part in government we have done well up to this point but we must continue to make adjustments in the years ahead if we are to take advantage of opportunities. As I said, however, the big issue for government and for taxpayers is whether the provinces should shoulder all the responsibility for maintaining and building provincial
road infrastructure. We continue to urge the federal government to take action: either they reinvest the revenues they currently collect from fuel taxes or they let us collect the fuel tax so we can put it right back into roads.

Thank you Barry for the opportunity to say a few words on the government’s role in helping put “fields on wheels.”

*Dr. Barry Prentice, Director*
*Transport Institute, University of Manitoba*

Thank you Mr. Findlay for taking the time to be with us this morning. I know you have a very busy schedule and you won’t be able to stay for the whole day, we do appreciate you coming this morning. Certainly the topic that you spoke of is one that is near and dear to the hearts of those who are looking at the changes coming in agriculture and many of the topics that are on the program for today.

Moving on, I would like to introduce the morning sessions’ chair, Dr. Daryl Kraft. I am not going to make a long introduction, except to say that Dr. Kraft is Head of the Department of Agricultural Economics, and my boss.

*Dr. Daryl Kraft, Head*
*Department of Agricultural Economics and Farm Management*
*University of Manitoba*
*Morning Sessions Chair*

Thank you Barry and good morning. The term “Fields on Wheels” indicates a combined effort of the Faculty of Agriculture and the Transport Institute, so this morning we are going to hear a lot about the fields component, which is a diverse set of commodities, and their specific transportation characteristics. First we will hear about the transportation of milk, forages and straw and pulse and special crops. Later we will here about a technology that is having a major impact on the logistics of Fields on Wheels — Geographic Information Systems (GIS). Our first speaker is with Manitoba Milk Producers, Raymond Rudy. Ray grew up on a small farm in southeastern Manitoba, moved away shortly after high school and joined the “sure-grow” division of Canada Packers where he cut his teeth in the transportation and traffic area. In 1978 he moved to the Manitoba Milk Producers’ Marketing Boa. He is currently the supervisor of transportation with the Manitoba Milk Producers. I came to know of Ray’s work indirectly through my experience in regulating milk prices in the province of Manitoba. I can attest to a number of his skills. The fact that the transportation component of the cost of milk has not increased one cent over the last ten years is testimony to Ray’s capability. In an industry that has faced considerable inflationary pressures he has been able to manage costs for the Manitoba Milk Producers and, of course, for Manitoba consumers. Please welcome Ray Rudy.
Raymond M. Rudy, Supervisor, Transportation  
Manitoba Milk Producers  
The Logistics of Milk Pickup and Delivery to Dairy Plants

Introduction

Thank you Dr. Kraft. Just imagine what he would have said about me if I had passed one of his courses. As Dr Kraft said, I am an employee of the Manitoba Milk Producers.

Moving bulk milk from farm to market is a logistical process that has evolved in response to multiple factors. The nature of milk as a product makes it extremely time-sensitive. Quality degradation can occur very rapid if milk is not cooled properly on-farm, not kept cool in transit, or mishandled along the way. During the 1960's milk marketing underwent a monumental change, going from storage in individual cans to bulk milk coolers. This precipitated the beginning of bulk milk tanker trucks as a means of transporting the product to market. In Canada this was followed quite closely by the inception of milk supply management. Producer-oriented marketing authorities were formed to oversee administration of the system. As one can imagine, the transition to orderly marketing was not accomplished quickly or easily. This morning I would like to go over some of this history.

Overview of Manitoba's Bulk Milk Transportation System

Milk transportation in Manitoba was built upon a myriad of complex factors. Traditional allegiances between haulers and producers, cooperative membership, and truck operating authorities were all part of the equation. When the Manitoba Milk Producers Marketing Board was formed in 1974 the bulk milk transportation system was characterized by what can only be called organized confusion. Because some milk was designated for fluid use, while other milk was destined for manufacturing use, overlapping truck routes and cross-hauling was endemic. The advent of centralized orderly marketing created opportunities to improve these inefficiencies.

Regulations stipulate that milk must be at a properly cooled temperature in order for pickup to occur. Indeed temperature control is such an important feature of milk production and transportation that standards for storage and transportation equipment) have been developed. In North America these are generally known as “3A” standards. They ensure that product temperature is kept within narrow ranges. Provincial regulations also state that a producer’s milk must be picked up from his bulk tank at intervals not exceeding two days. Moreover, the time window for pick up is only eight hours (8:00 a.m. to 4:00 p.m.). In the traditional system, when a bulk milk truck completed its route, it proceeded to an assigned processing plant. Assignment was governed to some degree by the amount of milk required by each facility to meet its market demands.
An important first step in achieving greater efficiency was instituting the same quality standards for all milk. This was accomplished in Manitoba in 1980. Since then the industry has continued to identify problem areas and implement changes to the bulk milk transportation system. I would like to go through some of these changes.

Steps were taken to re-designate routes (truckloads) to more logical destinations, that is, to plants closer to catchment areas. This reduced unnecessary distances traveled resulting in reduced costs. Another important step was eliminating cross-hauling. I know of cases where there were four different haulers serving four different producers over a very small geographic area. In the worst of these cases carriers eventually initiated their own changes. Naturally they recognized that operating more than one truck, with ample capacity, on a single road segment containing several stops was inefficient. Other route rationalization initiatives further reduced the problem of cross-hauling.

In the early stages of this rationalization process the technology consisted of little more than large-scale maps with coloured pins and fourteen column paper pads. These were our data manipulation tools! With developments in computer capabilities and sophisticated software programs data handling and manipulation is now much easier but involves extensive learning and training. If this exhaustive learning curve is not undertaken the ultimate benefits are unattainable. The software used by the Board can generate routes "from scratch," or it can help optimize existing situations by providing rapid solutions to a host of routing and scheduling problems. For example, vehicle utilization and fleet configurations can be optimized by using the best-suited vehicle and loading it to capacity on the basis of least-cost sequencing.

However, computer and software technology is not a "magic bullet" — it cannot solve all problems. It is and should be used as a management tool in conjunction with other information sources and application criteria of a less tangible nature. One of the primary benefit of using software as a management tool is that it eliminates or postpones subjective judgement in the decision making process.

Satisfying the requirements of fluid processing facilities is another area that requires a dedication of resources and personnel. Although fluid plant requirements are fairly static, consumer demand actually governs the amount of raw product needed for processing. As truckloads of milk are assigned to specific plants on the basis of historical patterns, other factors generate the addition of supplies or the removal of surpluses. The graph below shows the supplies assigned versus plant requirements for a typical week.
As is evident from the graph, there are variances that need to be accommodated. Dispatch staff establishes, as far in advance as possible, actual plant requirements. In some jurisdictions this process is automated with orders placed one week in advance. In Manitoba, with its relatively small market, less advance notice is required. Decisions to draw added supplies or place surpluses are made on a least-cost basis while maintaining plant allocations.

Redirecting of truckloads is done prior to the completion of loading, usually at least one day in advance. This gives consideration to scheduling and avoids the problems of overlapping and cross-hauling. Redirecting several vehicles to the same facility at the same time of day can also create unproductive waiting time, adding to transportation costs. This problem is illustrated in the following graph. Some of the automated software packages have scheduling software to help prevent such conflicts.

In Manitoba, drivers contracted to Manitoba Milk Producers carry milk from farm to processing plants. Drivers must hold a valid "bulk milk graders licence" and accept a producer's milk only if it meets all of the grading criteria. In this respect, bulk milk haulers have a greater degree of responsibility for the quality of the product than many other truck drivers.

The vehicles operated range in capacity from tandem axle trucks (11,800 to 14,400 litres), to tandem axle semi-trailers (22,000 to 26,000 litres), and tri-axle (tridem) semi-trailers (28,000 to 29,000 litres). The number of processing plants these trucks deliver to has decreased from nineteen in 1974 to nine at present. In that time the number of producers has also declined by more than half. As a result product must be trucked ever-greater distances. Despite this, the number of trucks in operation has continued to decrease, from fifty-seven in 1974 to today's fleet of thirty-nine vehicles. This is because of the increase in individual tank capacities (average tank capacity has almost doubled since 1974, from 9,800 litres to 16,450 litres).

Contractors hauling milk are paid on a rate formula basis. In recent years the rate formula concept has undergone two major revisions. The most recent change, adopted in 1991, gave more weight to actual service required, based on fixed and variable costs. There are also incentives for optimizing vehicle capacities and equipment utilization. Revisions to the rate formula created the economic pressure necessary to ignite needed changes.

These changes have had positive effects on transportation costs. For example, under the first rate formula (instituted in 1978) transportation costs were equal to 5.38 percent of the gross pool blend value of one hectarolitre (100 litres) of milk. By 1996, after years of diligent negotiation and revisions, transportation costs represented only 3.78 percent. Fleet configuration and vehicle utilization has also improved substantially. In the past, cases of transporters hauling less than full loads once a day occurred because the system compensated them for it. This no longer occurs.
Improved fleet configuration and vehicle utilization means better revenues, particularly in high producer density areas in close proximity to assigned processing plants. Conversely, vehicles not fully utilized will incur negative rate incentives (penalties). This is effective in initiating route rationalization of contiguous service areas by adjoining carriers.

**Future Issues**

The future of farm to plant milk transportation is facing unprecedented challenges. At the farm level, production units are becoming larger, fewer in number and adopting new production methods, such as three times per day milking. This means that the time windows for providing pickup service need to be shorter. Larger farms also produce more milk per pickup. As a result, larger capacity vehicles are required.

Processing plants are also becoming more vigilant regarding costs: reducing workdays per week and daily receiving times. These measures impose further restrictions on the transportation system. To respond, carriers will need to adopt innovative methods and be more flexible if they are to remain competitive. The use of larger capacity equipment operated for longer hours is an option in higher production density areas, but may not be applicable in low-density areas.

The use of computers and electronic technology is in its infancy in this sector. In the very near future the use of such tools as routing and scheduling software will become more widespread. Coupling this with automated ordering and electronic data capture will further streamline the supply chain. Economic and competitive pressures are certain to ensure future adoption of these technologies.

Cost containment within the transport sector continues to be a high priority for the current board of directors of Manitoba Milk Producers. In that vein, all stakeholders must recognize the need for more efficient use of equipment, personnel and resources. Perhaps the biggest single challenge confronting the industry is globalization. In particular, recent changes in trade rules ushered in by the World Trade Organization will have a marked effect on supply-managed commodities. The dairy industry in Canada continues to restructure in order to remain competitive and retain market share. This process began with an introspective, critical review of the way the industry conducted itself within Canada. The first decision was to break down provincial barriers and form regional pools to share markets and revenues. This opened the door to further plant rationalizations and more efficient use of existing facilities. With raw milk supplies and processed products now able to move more freely between provinces the marketplace is taking on a new complexion. For example, transporting supplies from a catchment area in one province for processing in another presents a new challenge to milk transporters.
While the production sector has adapted quickly to changing market forces, the transport sector has not. In particular, the manner in which milk is moved from farm to plant will have to change. There is every reason to believe that bulk milk transporters will respond to these challenges in a positive manner. Hopefully they will embrace the tools available to them and continue the positive evolution of a very important part of the dairy industry.

**Dr. Daryl Kraft**, Head  
*Department of Agricultural Economics and Farm Management*  
*University of Manitoba*  
*Morning Sessions Chair*

Our next presentation deals with the issue of managing and exporting a very bulky commodity — forages and straw. The presenter Rudy Schmeichel is an innovator, a visionary and a promoter of Timothy hay and alfalfa producers and exporters. His current challenge involves bailing, stacking and transporting straw from all over southern Manitoba to the new Isoboard plant to meet production schedules. Rudy has also worked in the area of raising equity capital and brings to this industry an ambition and a vision that I am glad he can share with you today. Please welcome, Rudy Schmeichel.

**Mr. Rudy Schmeichel**, Consultant  
*Forage and Straw Logistics*

For the last 2½ years I have dealt mainly with the logistics problems of moving 400,000 bales of straw, measuring 4 x 4 x 8 in dimension, from rural locations all across southern Manitoba to the new Isoboard plant. It is staggering to think that supplying a $150 million plant requires 900,000 miles of transportation services. I approached the problem by looking at current trucking methods. The first thing I looked at was tires. I was happy to discover that there are some very wonderful hi-tech tires out there (however, truckers hate them because they cost a fortune).

Getting alfalfa and Timothy into position to actually assist the dairy industry involves some very complex logistics, and one always has to pay attention to costs. The logistics that I think about is the bottom-line cost accounting and how you cost account so you can get improvements. In order to use today’s technologies, these database management systems, that come with a normal set of software, that comes with what we call today a normal computer, is capable of marvelous volumes of data manipulation and the forage industry I think we have a marvelous opportunity to increase the volumes of exports of forage into the United States. And so one of the dreams I share with Dr. Prentice is that we need a huge shed, for want of a better expression - a super shed. And I think we need it on rail simply because when you get to the bottom of the details - forages have a limited price, dairy needs a high quality secure supply of forage - a grade they can count on all the time and they really cannot afford to have
one bad bale come from a Manitoba exporter, for instance, or from a Manitoba supplier. Now in Alberta, there are two or three companies, there are probably six or seven fairly large storage, quasi-processing facilities and they export forages to the Pacific Rim. If we had a super-shed or a number of them around Manitoba and if we used the institutional device of the public company so that the people that are presently in the forage industry could literally pool their resources then we could improve the quality and the consistency of the delivery of a product to the end user.

I would also put before you the proposition that the same thing is going to happen to move forage. These triple axles, super-B’s, can increase the distance that the forage producer in Manitoba can travel by truck. However, the rub again, is that when there are more people in the United States than there is in Canada the farm land costs more money and therefore the opportunity costs of that farmland is such that they grow alfalfa and Timothy, when they would just as soon buy it. There is one producer in Manitoba that has been shipping forage by rail and probably a few others who have done it sporadically. Actually I am a visionary and a dreamer, but there is no point in trying to reinvent a marketing channel that somebody else one or two provinces over has already invented. So what I think would be successful is capitalizing on rail storage in Manitoba and joint-venturing with perhaps, Alberta producers who have already opened up their channels through Seattle to the Asian market. You could also supply them whenever they needed some material from Manitoba. But the underlying point is such a simple, simple concept. With a hard-working, high-capitalized agricultural sector in Manitoba, they still continue to pile the hay bales in a mudhole. Some of them are starting to build some smaller sheds. A shed is costly I know - but a shed can keep you from sucking up moisture from the bottom. This issue I am addressing is the one idea that could elevate us in forage and it has elevated, I am asserting the forage industry in Alberta.

Yields aside, I would briefly like to explore two other issues - line items that will enable you to calculate the associated costs in producing forage. Yields are the costs controlled by the farmer and a person like me - a provocateur, would provoke the farmer into fertilizing the alfalfa and keeping the records and proving to himself that the yield goes up.

I was an alfalfa dehydrator for a short period of time, from 1974 through to 1978, however, my skills in this occupation were clearly limited. For instance, I would take a bag of seed and toss it on the ground where the alfalfa forgot to grow. We are highly mechanized - we have lots of unemployment - we have lots of teenagers, and I do not know if we can con them into helping the farmer improve his yield. But I do know that computers and a large number of line items, like a database, would enable the producer and exporters to better understand total costs. For instance, to break out forage costs it seems to me, rather obvious that if you make three cuts it costs you three times as much to bale, to mow, and to haul the product off the field to the side of the road. But we have not got a real handle on our costs with respect to that in the forage side. They have it in the alfalfa side, I’m sure. I have just line-itemed out those that I think we have to break out: seed, fertilizer. You have to fertilize forage crops if you are going
to make them competitive with cereal crops and you must count for the raking. I spent a significant period of time this summer with the forage people and they did not have a line item for raking. The cost accounted for chemicals, for baling, and they have various methods of cost accounting for roadside stacking (and I want to comment on that a little bit). Their loading, their hauling, and of course I am prejudice because I want them to haul to a super shed so I say it that way and then you unload and classify and store. Then you load, then ship by rail or truck and you have to pay a commission, although frightening, it works. Then there is the rent that you pay back to yourself. Now, although these are all very simple concepts, if you start breaking your business down into many, many columns, then you can start using the database managers that come with Windows 95, for instance.

I would also like briefly to touch upon the machinery that I believe is now available. If I said JCB is there anybody who would respond? Well, we introduced a tractor to the Province that is built in the United Kingdom that travels 41 miles an hour to hook it up to forwarding units for what I hope will become an eventual inland barge system. With this machine, I provoked a forage producer this summer into hooking this to his bailer to go and do forage. Obviously I imported this equipment for Isoboard? The first skeptic I encountered informed me that ‘it cannot go 41 miles per hour because the tires would get too hot.’

Well there is a marvelous high tech tire from Michelin on that tractor, the side walls of the tire have little conical shapes which give a larger surface and more side wall that keeps the tire cool while it is going 41 miles an hour on the road. It has four wheel independent suspension so you can have a plow sticking up on the back at forty-one miles an hour and it doesn’t bounce out of control on the road. We’ve moved Hesston balers, the large four by four by eight balers, down the road at forty-one miles an hour. The tractor doesn’t come out of control, it an amazing machine. Turning around fields on wheels, and suggesting that in the future there will be different wheels on the fields. Another thing that I’ve been wrongly criticized for is putting crawler tractors with belted rubber tires on balers. In the forage industry I think these will become very important. Again, I am a down and dirty commercial kind of a guy who sells stock and bonds. If you can get a big horse power tractor and put together a combination of interest rate plus the capital cost of that tractor equaling someone’s machinery where the capital cost is lower and the interest rate is higher and you can only put 5.7 psi on a farm field the alfalfa grows faster after the first cut if you don’t hammer it down with 18, 20, 22, 24 psi from the tractor wheel and you get right back to this silly fascination of mine how wide is the tire when it hits the road. The tire that is unique to Caterpillar spreads out psi over a long distance and also has a wide stance, so that you can drive right over a huge swath. One of my appeals as a provoker to the farm implement manufacturing industry is that we need some help in forage. Swathers aren’t built right, we need to be able to lay down a swath so that when it rains the wind blows around the swath. I believe that the problem can be solved, I also know that somebody isn’t going to go and invest 8 million dollars to develop a swather for which there is a market for only 17 a year. As we march forward in agriculture I am optimistic that the manufacturers will produce a swather that will allow hay to be laid down in a field so that it can dry more quickly after a rain and cut down some of the cost. Why do I have all of these concepts, why do I have all of these
thoughts? Well dairy cows aren’t getting any less expensive are they, and dairy barns are getting larger. If I am silly enough to stand out on a road for a number of hours and just think, what do you suppose happens if you stand for six hours in a modern dairy these days? I have spent some time in Toronto and I’ve been fascinated by what wealthy people do with there money when it comes to the racetrack, and the horses. I focus on the dairy cow instead of the dairy barn. I know very little about dairy cattle nutrition but I do know about economics, the bull is getting more expensive because you have got to get more milk from the cow through the breeding. Therefore, Manitoba or Canadian certified forage, I am asserting, is going to face tighter parameters in the market place. With this will come some new organization structures that will call for the immediate shedding of the hay, and a barrier from moisture creeping in from the bottom. The equipment is there, it is a matter of getting used to the idea that you may need a very huge tractor or a very fast tractor or both in order to get forage quality up and consistent. Forwarding wagons that I had an opportunity to think about, the engineering definition of work when I saw all these bales out on the field. Forage handling systems are amazing. We brought in for the isoboard project a forage wagon and unfortunately it is made in the United States and the Canadian dollar is worth seventy-one cents and by the time you get the thing landed in rural Manitoba it is three hundred and forty thousand dollars. Everyone says ‘dear three hundred and forty thousand why I could just go out there with my pitchfork and pick those bales up’ except they weigh 1150 pounds. This is my way of saying to you that in the forage area and in the straw area there is some marvelous equipment that is available some of it works and some of it doesn’t and you have to have the courage to face your mistakes. If you make a two million dollar error on forage wagons you can’t blame anybody but yourself because you picked it. This year I saw a forage wagon working in Manitoba that was brought into help solve the dilemma of how you pick up four hundred thousand bales from six hundred farmers fields in a short period of time so you can get on with the fall work. The bale wagon was the ninety-sixth item off by the manufacturer and a good operator. The operator has got serious responsibilities. We discovered this year that we could take certain individuals and put them on forage wagons and within four hours they were stacking 1150-pound bales at eighty six to one hundred bales and hour, that is production. You will find one person like this and nine others that just can’t come to that level. This is because they don’t think that working on a farm field driving a three hundred and fifty thousand dollar machine is important. I am asserting to this crowd that neither do the rest of us. We barely pay airline pilots over one hundred thousand a year to muck around with expensive equipment. To show you how provocative my silly mind works if you say that they pay the airline pilot a large amount of money because the plane is expensive and the insurance company doesn’t want the plane broken up it gets you away from this notion that they pay the pilot a large amount of money to protect you and your life. About all you have to go on with you and your life if the plane goes down the pilot usually kills himself along with you. So if you start thinking about why do we pay this, find another reason for the problem that one person in four hours can stack one hundred bales just for the sake of speaking and you can take twenty others that can’t get past sixty. It is attitude but it also gets back to the Dr. Deming principal don’t ask someone to do what you wouldn’t do yourself. So if a guy can get paid an incentive, and he can make more money than his boss, you can work out the formulas, I am asserting you have to get serious about how we man our equipment, our equipment is getting bigger and more expensive the dairy cows
need a tighter spec and I am hoping that we can in Manitoba attract the capital, we can get the railroads and other groups interested in our plan and that most importantly that forage producers themselves will find a way to share the benefits by going forward with a public concept idea. I thank you for your time and attention. I don’t know if I have contributed, I don’t know if I have upset you, but I can’t wait for Bruce to make his presentation.

**Dr. Daryl Kraft, Head**  
Department of Agricultural Economics and Farm Management  
University of Manitoba  
Morning Sessions Chair

Thank you Rudy. Information systems were touched on by the previous two speakers, information system in logistics means automatically geography and no better than our next presenter Bruce Graham, General Manager from Linnette Geomatics, one of the leaders in the province, one of the leaders nationally, one of the leaders internationally in GIS systems, in business. Bruce Graham.

**Bruce Graham**  
President  
Linnet Geomatics International Inc.  
Geographic Information Systems in Agribusiness Logistics

Thank you Dr. Kraft. While the overheads get going - I heard a hi-tech story on the weekend that I thought you might enjoy. It was not directly related to agriculture, but there were four golfers, a Canadian, an American, a German and a Japanese gentleman. About the second hole the Canadian cellular phone goes off, so he gets it out of his pocket, takes the call and when he is finished he commensurate with his partner saying how important it is to stay in touch with the office at all times, and they all agree. The next hope the American all of a sudden puts his hand up to his head and starts to take a telephone call. After he is done he says well this is the latest in high tech stuff from the CIA - I have the receiver in my thumb and I’ve got the mike in my little finger. A hole later the German is in the middle of his put, all of a sudden he stands bolt upright and starts taking a call, and then says I have the latest stuff from the KGB when they came over from the East. I’ve got a receiver in my ear, a little microchip, and I’ve got the mike in my lip. Sure enough the next hope the Japanese gentleman all of a sudden midway down the trail throws his clubs down and runs into the woods, and doesn’t come back for several minutes. The other three go over, part the trees and have a look. There they see the Japanese crouched over, has his pants down around his knees, says so sorry fax coming from Tokyo. Anyway, we don’t have any of that technology.

The topic today is the supply chain transition that is starting to occur in Agriculture and I have a little bit to say about the role that GIS technology is, I believe, is going to play in that process. Before I start I just saw a story in
Agri-week dated August 11, 1997 that highlights some of the issues that are behind this supply chain transition. It was in the context of slow terminal operations in Vancouver and the effect they were having on rail car availability. This is a direct quote, “nobody in the trade is saying much but chronic mis-matching of rail car orders with export requirements is mention, basically is a source of the slow terminal operations. A major source of difficulty is the large. The number of different grades of board grains since protein segregation was defined a couple of years ago. The number of distinct grades is proliferated until now there are 27 grades of hard red spring milling wheat, 14 of Durham, and 12 of barley. Terminal space is not sufficient to cope with such an array of grades and as a group the terminals are poorly set up to blend different lots to achieve narrow band protein content. So rail cars are being used as spillover storage and the system is operating almost on a direct hit rail to ship basis for which it was never designed. That is a basic order of fulfilment problem and I believe that GIS technology can play a very important role in helping to start to sort out some of the underlying problems.

Just to give you an over-view of how I am going to approach this I want to give you a commercial on Linnet to start with just so you know who we are to start with, then an over-view of the view we are starting to take of the agriculture business process and how GIS fits into it, along with a specific example of how it is being implemented by a firm Warburtons. Warburtons is a United Kingdom bakery that is active here in Manitoba. Then follow up with a specific discussion on an implementation that is addressing the order of a fulfilment problem.

I am not sure how many of you are familiar with geographic information systems but they are basically a system that is made up on largely four components. One is a digital reference map of some sort that you have to register you data to. The second is a piece of software that you would buy from a vendor that typically goes under the name of geographic information system, it in fact is a tool kit that comes out of the box that you can then start to load your own data to and try do something with. The other side of that is that in a large organization, at least, is data distribution technology, the ability to actually handle large graphic data sets and the attribute data sets that are connected to them. It is not too difficult, but if it is on a single machine, but if you are talking about an organization such as a grain company or a large chemical company there are large corporate databases that reference each of those graphic features that you are dealing with and it becomes very important that there are sophisticated data routines that go in behind. The fourth component, and as Rudy would say when the rubber hits the road, is what happens when this thing sits in front of the user and we’ve called them user applications, but what it is, is it is taking the business process that you are dealing with and then customising that system, in other words, the reference map is a fix, but it is customizing the off the shelf software and assembling the data bases required to actually solve this specific problem that the user is dealing with. In this sense we are not talking about GIS systems that are sitting in the back room, I am talking about actual applications that would actually sit with the shipment planner if you were looking at filling an order, or the crop consultant if he was sitting with a farmer deciding with him how to layout next years crop plan and the fertilizer chemicals, seeds that was going to go with it. Linnet specializes in that whole realm of activities and specifically with the focus on building systems to meet specific business requirements for the
end user. We try and do that in a way that is going to improve our clients business and has got beyond budget time an aspect at the end of the mission statement there because usually we are getting sucked in to fix price contracts these days and beyond budget is our side not your side. It is there to remind our staff to get the job done.

In terms of why is GIS technology important in agriculture? Agriculture in a broadest sense deals with spatial issues. It is either understanding farming practices related to a point on the field or to producer intentions on a regional basis, analysing crop performance under specific environmental conditions if you are a chemical company, seed company, determination of market share could be by elevator point, by region, analysis of client and dealer networks, again these are all regional issues, because everything happens at a point on the ground. Direct marketing of course if focused on getting your message to the segment of the farm population that is going to have the most impact on rather than just a mass mailer. Business analysis and reporting can go on and on with the range of applications that the technology will assist you in supporting. If we look at a high level view of the business process, we have started to, at least at the farm level, and the farm input level, look at the whole ag-business process and four major components. It is a high level business model on the left hand side are the crop inputs and supply side. At the top would be one-farm practices, whether it is constant rate or variable rate starting to move towards precision farming technology. The writing inside is product to market the logistics problem. At the bottom, of course, is the financial process, and this could be crop insurance loan portfolio management. All of these business processes either would benefit from sharing data with each other in the form of that data base at the centre, the GIS data base because everything is included there is land base, so there is a point that is associated with it. They’re all spatial processes. If you look at the logistic problem, in other words, look at the precision farming module and the goods movement module, if you think, and this is a bit of a future stuff that Rudy would appreciate after that last discussion, if you look at precision farming and what comes off the yield monitor and everybody in western Canada had a yield monitor you would know exactly what was produced, where, immediately after the harvest across western Canada. With quality information you could have a surface of production that was spatial and covered all of the western provinces. If you overlay that with the logistics network, the railroads, the transportation system you then start to have a very solvable problem in terms of getting at some of those order fulfilment issues.

Looking at GIS in a typical install, this is just an example of any ag-business, it could be a grain company, a chemical company, it has a marketing component, it has an R and D component, it has a logistic component, how to move the goods to market, sales component. Underlying these business processes at least in agriculture, are the spatial data sets that support each of them underline those spatial data sets is a reference base so that everything you see there can be referenced back to a point on the ground whether it is producer profiles, soils information, suppliers influence information. The GIS applications are actually and interface between these databases and each of the business processes.
There is not, in this model a GIS system that sits in the back room and has some technology expert running it and producing maps. The applications themselves are focused on each of the business processes. They access the corporate database view of the business and each of them is focused on delivering any specific business manifest to the user in each of those areas.

If we step back for a second and look at the underlying that allows us to relate activity to a point on the ground. We are now looking at model that we relate, calling it activity location, but in the context of farming it is at what happens at a point on the ground, so it is either seeding, fertilizing, chemical application, all of that side is more or less a database activity, but when you start to relate it to the fields, the location aspect the GIS side of the problems start to take effect. It is the relationship that defines product inventory, actually at the lowest level. So if you see the crop at the field level and then start to relate it to other aspects of the business process, you can go back then as the agronomic side, crop consultant side, to the sales order and on the logistic side then you go to the concept of the crop being contracted for, directly with an end user, and that is essentially what that agri-week article was trying to highlight. If you have a model like this it doesn’t matter how many pieces are in-between the contract and the crop it is still possible to track it through the supply chain. The it gets down to this, I think becoming obvious agriculture is fundamentally changing as supply chain model as the article is discussing protein segregation has now increased the number of separately managed crops in the wheat board system to more than 35. The system was never designed for more than the initial number of grades that were in place twenty years ago. In addition to that though now that there is, and this is outside of the wheat board system, at least, and this is North America wide, thirty to fifty per cent of all production is managed inside some form of identity preserved program. In other words the crop is being tracked all the way from the field, actually all the way from the seeding date through the system to the end user and examples of this are Quaker Oats, Anheiser Bush and their purchasing of malt barley, Warburtons here in Manitoba which is one example I will get into a bit more discussion about. Warburtons is an English bakery that is contracting through the wheat board and through two of the grain companies in Manitoba, the Manitoba Pool and Patterson’s, have more or less contracting directly with the grower for specific varieties of red spring wheat that will yield specific protein contents for them.

These trends are starting to establish a focus on the end consumer. I think that it is the end consumer is the bakery or the malt plant that are creating some key challenges for the next five to ten years for supply chain. The current handling system is build on a commodity of product to export orientation that always has Canadian red number one as the ideal of the focal point. That is not what end users want any longer. Organizations are not set up to manage and respond to market driven requests for products that have other performance criteria’s in them. Ones that the current system was designed for. This whole issue is made more complex because these performance influencing criteria are agronomics relating back to some basic farm practices which we don’t really understand very well and all of them are spatial in nature and the technology to understand the spatial side is not yet in place. GIS technology provides one of the tools that are going to help us address these requirements.
If we take an example of what this means in terms of the supply chain, Warburtons is one of that is very instructive. They have, and this comes from David Henderson the manager of their order fulfilment, their supply chain. He has a bit of an altruistic streak I think, but says he initially he wants to improve the profitability of his partners. He is not doing that because he believes that it is going to have any direct influence of the partners themselves, what he is doing is, he believes that if he can help his farmers improve their farming practices it is going to be better for Warburtons in the long run. Their goal, by the way, is to produce the best premium bread in the United Kingdom. They are the third biggest bakery in the United Kingdom and place a high premium on the quality in their products.

To help his producers he wants to be able to use the technology to look at specific farming practices and the effect that they have on the product that he is buying from them. To help them behave in different ways that are going to both improve their economic bottom line in the future, but also in ways that are going to improve his product quality. At the same time if their economics are getting better so are his because he can get a better price. Secondly he wants to facilitate a call forward program. When they fill a shipment, they fill shipments on a monthly basis, when they fill a shipment they have to have some way of bringing contract wheat forward that is sitting on the farm, it is not in the elevators. He wants ultimately an ability to better define what those shipments are and that essentially was the first focus of what we have done through Warburtons. If you look at their overall GIS technology it is a very high level view of what Warburtons GIS is going to look like and a number of the components are already in place. There is at the centre of it a call forward module that builds on top of the producer manager module that holds all of the basic information about crop history that can go back as many years as you want and in Warburtons case they are putting a couple of years in for the producers they now have on contract. The agronomic analysts module is to come once there is some business rules. Right now it is a research tool that will allow them to look at what happened and what the results were and then ask a bunch of ‘what if’ questions based on location on the ground.

The module though is the order filler is what call forward is not call forward in the sense of programming a phone to send your messages across to your partner. For them call forward means when they have a shipment they want to call certain contracts forward from the producers. Warburtons now has about ninety thousand tonnes of grain under contract that they think that represents three or four hundred producers at this point. When you make up a simple shipment this is not a simple problem to start to look at the specific recipe that they want for that shipment and then bring it back to actually making the calls to the individual producers to start to deliver their grain either to Patterson’s or Manitoba Pool.

I have an active set of screen captures that actually show you the process that Warburtons goes through when they start to plan a shipment. The first screen is a summary of what shipments have already been laid out or planned. I will go through the process with the slide presentation. Up comes a screen that is data input, shipment date they can
set a target protein content that plays a somewhat active role, looking over, what it essentially does is allows them to tract the shipment as it is made up, and the protein content of it is always being added like a spreadsheet as you add components to the shipment. The spread between the two elevator companies is the contracted split in terms on tonnage that has been allocated to the two of them, in this case it was eighteen thousand tonnes, twelve thousand going to the Pool and six thousand to Patterson’s. You can put in a target blend. Warburtons has, in their own analysis of what wheat blends and what wheat varieties are most acceptable to their bakery chain of selected teal, saskqua and berry as the mix that they want to look for. That is what they contracted directly with the farmers for. In this case they are saying for this shipment this is the percentage of tonnage that we want from each of those varieties. At the bottom is another set of variables, they have also found that based on certain agronomic regions those varieties perform differently. So they can also specify as part of that shipment which regions teal is going to come from.

We are starting to set up an elg rhythm basically that is going to show allocation for them. The system then takes that input, the variables and does and initial allocation of the shipment by variety. Now it is getting into the specific varieties that are relating back to the contracts. This is the shipment makeup according to selected blend and the regions.

It then goes in and takes the variety allocation and starts to layout that allocation to the shipping points. At this point now there is a bunch of business rules in the contracting side that are come into effect so it defines, for example, what regions are reporting to what shipping points. These are actually Manitoba Crop Insurance Regions, region one, etc. at the conclusion of this step. Then you get to the point when you actually get to the point that you call forward. At this point at each station the varieties available, the varieties and the contracts available to you have come up on the system. You can now start to select by just pointing and clicking which contracts you want to pull forward. Warburtons makes up essentially at this point two orders. They make up a primary and an alternate in case some of the primary orders can’t get there. This shipment call forward schedule is sent to the Pool and Patterson’s who actually do the call forwarding to the farmers, and they get back to Warburtons with the final make up of the shipment. At that point the process is done at this stage.

What they are doing is they are actually collecting and prioritising contracts that should be called forward at any point in time based on the products characteristics that the mill wants. In allocating those contracts to multiple delivery partners and designating that product mix by variety and by region. They are selecting contracts and alternates actually to ensure that the orders can be filled in case the first contract clip is not sufficient. The same time they are tracking and monitoring the shipment characteristics of the planning is carried out because as you interactively plan it you can watch the protein content change, you can watch the variety blend change at any point as you are filling the contracts you can start to play with any region. As fully integrated with those product test perimeters that are coming from baking tests and actually allow Warburtons have at any point in time a full view of
their inventory database both what has been used and what is left to be called forward. In the future there will be planned links to GIS based car allocations and logistics optimizations so as you start to have more drop off points that GIS technology in terms as to what it is doing for Manitoba now in terms of routing trucks can do the same thing in terms of helping rail cars for drop off.

Benefits from using the technology in this way development of call forward schedule that can meet the requirements of value added processors, through the grain companies and the Canadian Grain Commission. Warburtons is a very simple example because they are dealing with very small part of the landscape. It is a very powerful example in terms that you scale it up. It is not dependant on size. Rapid post harvest, inventory monitoring, if you are aiming to get back to my initial example if you had a yield monitor on every machine that was reporting into the database you had at the conclusion of the harvest up to second almost analysis of what the western Canadian inventory was by variety, by grade, and where it was and what bin it was in. Lastly improve the marketability of all products and by products I mean crops, by establishing a capability that will allow western Canadian farmers to deliver in a much wider spectrum.

It is going to require much enhances use of GIS technology to manage that process and through development of some of these key function modules you just saw part of one, Warburtons is proceeding on a few of the others. The rest of the industry needs to take a serious look at partnership arrangements and how they need to apply the technology on an industry basis. No one company covers the whole range so it has to be a co-operative effort. There has to be access to merging agriculture data sets, and by that I mean all the way from basic economic information like soil data which isn’t even now that widely available in a way that a GIS status implementation could use it. Production yield data, there are data bases that have a wealth of production yield data at this point but aren’t accessible. The ones that come immediately to mind are crop insurance, July the 15 each year crop insurance knows exactly what the seeded acreage in western Canada is of all of the insured acreage, exactly what varieties are, post harvest by November 15 we know exactly what they yields are. The data is all proprietary at this point. If it could be shared in some sort of environment that protects the interest of the producer, it is a very powerful database. Partnership with all the various organisations, Wheat Board, the grain companies, and the client organizations because this is a really supply chain problem just like Wal-Mart for example trying to get shampoo through their system from Palmolive. It is also going to involve a lot of incorporation of the technology with the existing information technology. There is a wealth of data already sitting in the databases that these organizations hold. It has to be brought together and it has to be sort of attached to the point from the ground as it deals with GIS technology that allows you to start to play with that in a very productive way. I guess this is a very complicated way of saying that the technology holds a lot of promise for all things that also involves the terminal problem that I started out with, that is going to be the key to the health of the industry. Thank you for your attention.
We have time if you so wish for two or three questions.

It is not as much as a question but a couple of comments to Mr. Graham. I think we all realize that the technological advancements are benefits, but a few pragmatic things that create some problems in the whole process. You talk about efficient farming being a key aspect of the data base, but from a farmer’s point of view, that is what I am a farmer, from a farmer’s point of view to do ninety soil tests per quarter section to get an accurate reflection of nutrient requirements that turns out to be fourteen dollars and ten cents an acre. At fourteen dollars and ten cents an acre, if I want to grow wheat for Warburtons I simply over fertilize, just add extra nitrogen. And then the climate takes over. You can do all the computer modules, and yields data that you want and if it rains once too often you are not going to get into Warburtons. So, I think there are some fundamentals, economic things that happen at that particular spot in the dirt that you are talking about that have nothing to do with global positioning or information that has to do with climate and economics.

Secondly, you mentioned about how much value the total data package would be and I will tell you now sir that too much data reduces volatility in the market and that is not good. As farmers we need volatility to see pricing signals then when you reduce volatility in the market you simple do not have a pricing signal and we see that with wheat board grain. There is zero volatility in the wheat board market because there is one buyer. You don’t have any discretion on when to buy or sell in the market. If you reduce volatility by more information then the same things will apply to non-boards and that is a negative.

Bruce Graham - Responding to precision farming, I wasn’t trying to suggest that precision farming is a required input to this process. It has lots of problems as the gentleman has pointed out in its implementation. I personally believe precision farming is not there and won’t be for a number of years for a lot of those reasons. We don’t understand the agronomics at the level required to make it economically worthwhile to go out and take those soil tests. We don’t know how to define those zones in the fields so that we are able to make technology that can actually provide the benefits that many are claiming for. What I guess I was alluding to in division of knowing exactly where everything was on the ground was if you had a yield surface you would know what your inventory was at any point in time. You would know something about the characteristics of the surface if you had sampled it I wasn’t getting back to the actual fertilizer input. In terms of volatility in the market place I am not suggesting how you use the data, I am saying if we have it I think we have as an industry we have a very powerful tool in being able to go after markets that are demanding specific input. If the markets aren’t demanding that they are still there it is there is a significant proportion of the market at least in the US that is moving that way whether it is good or bad. Technology helps you to sort through some of the supply chain problems and helps you with what you can’t do currently. It helps you support some of those end users requirements.
Dr. Daryl Kraft, Head
Department of Agricultural Economics and Farm Management
University of Manitoba
Morning Sessions Chair

We will not go into Dr. Prentice’s extensive resume other than to say that he has a very challenging job at the university trying to bring transportation into a number of disciplines and research and any time you’ve all done research it is a challenge as well as involve the transport institute with the industry. His paper for presentation today deals with the transport of pulse crops and we will have two presenters who work from industry in this area following him. I will turn over to Barry on his presentation on pulse industry and transportation.

Dr. Barry E. Prentice, Director
Transport Institute, University of Manitoba

Emerging Trends in the Transport of Pulses and Special Crops

Introduction

Information on the transport of pulse/special crops has been very limited. Aside from aggregate export data, published information is unavailable on the method of transport used to move these crops from origin to destination. Primary data collection was undertaken by the Transport Institute to ascertain the volumes and methods of moving products to export position for the 1996 crop year.

A survey of 33 pulse/special crop exporters was developed with the assistance of the Canadian Special Crops Association, Saskatchewan Pulse Growers, Pulse Canada and other industry associations. A telephone interview and faxed questionnaire were extended to each company. In total, 20 companies cooperated fully. Most of the 13 companies that refused to cooperate are minor players. Based on comparison with 1996 crop year export figures, the survey captured approximately 81 percent of all movements.1

Prairie Outflow by Equipment Type and Port Destination

Exporters were asked to indicate the method of shipment and the port of clearance for edible and feed crops. The survey data are presented for the combined Prairies in Table 1. The aggregate volumes of Western Canadian pulse/special crops exports are displayed by mode of inland transport and port of exit. Edible crop exports are presented in the top half of the tables, and feed exports are arranged in the bottom half. Only three western ports,

1 In the case of containers, the final port of discharge could be on the U.S. northeast. Western-based exporters did not list this port, but other participants indicated that some movements flow through the U.S. ports.
Vancouver, Prince Rupert and the U.S. Pacific Northwest (PNW), and three eastern ports, Montreal, Thunder Bay and Halifax, were recorded as having export clearances.

The eastern and western ports are almost balanced in aggregate. The eastern ports account for slightly more exports of edible crops, while the western ports have a greater share of feed exports. Inland transport of pulse/special crops varies significantly by commodity and shipping method. Feed crops are moved almost exclusively in bulk and hopper cars account for roughly 80 percent of feed shipments. Edible crops rely more on boxcars and domestic intermodal (containers and trailers on flatcars). About two thirds of edible crops are shipped in sacks or bags. Boxcars are most important for packaged product movements to the western ports, while domestic intermodal is more important for eastern shipments. Hopper cars are important for export of certain edible crops, such as yellow peas, which are moved in bulk.

Marine containers account for a relatively small proportion of inland movements. The majority of edible crop exports are transloaded to marine containers at the ports. Marine containers source-loaded (MSL) on the Prairies represent less than ten percent of total inland transport of edible crops. Movements of source-loaded marine containers to eastern ports are four times greater than to western ports.

Truck movements of pulse/special crops are generally limited to edible crops. The eastbound volumes are more than double those shipped to western ports. Although the distance to the western ports is shorter, these shippers face “front haul” rates, and the carriers have difficulty finding return loads from the western ports. In contrast, the shipments to eastern ports enjoy lower “backhaul” freight rates. Truck movements are a minor component of the total, but illustrate the efforts of the industry to find every available means of transporting these products to port positions.
<table>
<thead>
<tr>
<th>Mode</th>
<th>Western Ports</th>
<th></th>
<th></th>
<th>Eastern Ports</th>
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<tbody>
<tr>
<td></td>
<td>Vancouver</td>
<td>Prince Rupert</td>
<td>U.S. PNW</td>
<td>Montreal</td>
<td>Thunder Bay</td>
<td>Halifax</td>
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<td></td>
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Freight rate and service options vary with location and availability of equipment. Incentives to export through alternative ports are reflected in the commodity flow patterns of each province. Montreal dominates eastern port exports of edible pulse/special crops, while Thunder Bay accounts for an equal volume of feed exports. Domestic intermodal, which includes trailer-on-flatcar (“piggy-back”), is the dominant method of moving edible crops. The disproportionate share of Montreal reflects favourable freight rates granted to reposition this equipment.

The domestic market and exports to the United States must be added to the port data to complete the picture of Western Canada’s pulse/special crops industry. Figure 1 illustrates the flows of edible pulse/special crops from the Prairie Provinces to the end markets. Total shipments to the domestic market (59,396 tonnes) are about equal to
exports to the U.S. (62,721 tonnes). As a result, overseas markets receive approximately 80 percent of production with the other 20 percent consumed in North America. Saskatchewan accounts for four times the volume of Alberta and Manitoba combined. The shipments from Saskatchewan are evenly balanced east and west, with the domestic market accounting for 9 percent of shipments and the U.S. market representing 19.5 percent of shipments. The shipments from the other provinces have been discussed previously.

Figure 2 presents the shipments of feed pulse/special crops from Western Canada. Overseas markets consume a greater proportion of pulse/special crop feed than edible exports. Feed shipments to North American markets account for less than 4 percent of total production. This can be explained by the abundance of feed supplies in the U.S. and Canada, but may change as the hog industry of Western Canada expands. Feed peas are now being used to replace part of the imported soybean meal in hog rations on the Prairies.
Seasonality of Marketing Patterns

Figure 3 shows Canadian pulse/special crop export volumes from July 1992 to July 1997. Over the past five years pulse and special crop exports have risen steadily with increasing production. The reason for the decline in the past eight months has not been established, but it coincides with the shipping problems experienced during the severe winter of 1997.

A seasonality peak occurs between October and January each year. Several reasons can be advanced to explain the peak: 1) farmers want cash immediately after harvest to pay their bills; 2) European demand for soups and stews increases in the winter months; 3) a premium is available to the fresher product; 4) processors use this period to pack products; and 5) this season coincides with the Arab world celebration of Ramadan. A second, less pronounced, peak occurs from mid to late spring (May to June), with the opening of navigation on the Seaway.
The annual seasonality based on the average of the past five years is presented in Figure 4. The largest single month for pulse and special crop exports is November with 14.5 percent of total shipments over a five-year average. December and January account for 10 and 11 percent of shipments. For edible and feed markets combined, nearly 45 percent of annual production is exported during the period from October to January.

Seasonality and product requirements influence the demand for transportation equipment. Figure 5 presents the demand for equipment by type during the 1996/97 crop year for edible shipments. The demand for boxcars, hopper cars, and intermodal equipment capacity is evenly distributed during the peak period of October to January. Marine source load and tractor-trailer shipments account for lesser proportions of shipments, but remain a vital element in the movement of pulse/special crops.

Figure 6 shows the demand for equipment for feed exports. Hopper cars are overwhelmingly the choice for this market sector, with approximately 90 percent of shipments by this mode. Boxcar, intermodal, and tractor-trailer account for the remaining 10 percent.

At the present time, intermodal containers account for a minor share on inland transportation, but this is likely to change. In 1997 the railway movement of containers in Canada increased by 11 percent. The Canadian railways are making significant investments in locomotives and terminal to keep up with this growth. The opening of Delta Port in the summer of 1997 and the introduction of the post Panamax generation of 6,500 TEU container ships promise to expand the availability and lower the costs of marine containers.
Conclusions

The exporters survey data show that exporters use a greater variety of equipment to move edible as opposed to feed crops. The largest share of edible crops is packaged on the prairies and shipped on pallets to the ports where they are stuffed into marine containers. Feed exports are moved predominately in bulk using hopper cars.

The pulse/special crop survey data illustrate an important principle of logistics: A mixed system generally performs better than a pure system. It can be observed that two separate markets exist whose peak shipping periods generally coincide. The greater seasonal demand for equipment in the four months immediately following harvest stretches the ability of the system to perform. By using a variety of transportation modes, pulse/special crops exporters increase the likelihood of reliable service.

Reaction Panel Comments

Robert Tisdale, Manager of Special Crops
XCAN Grain Pool Ltd.

Filling in for Marlana Borcsh who I am sure would have been more prepared than I. Sadly she had to be called away for a family issue in Germany but we wish her well and a safe return. Thanks very much Barry, the information that Barry gave you is extremely important to people like myself who are traders and a lot of people think that maybe traders are opportunists, they are correct. We are opportunists, we try to find out where that opportunity lies and try to put things together and communicate our needs and wants and of course my personal shipments are more important than someone else’s personal shipments. So we take a very selfish attitude on that but to stick to Barry’s information. He is showing some historical direction and as a trader history is incredibly important, whenever we do get a bit of a downtime that is the first place I go. To look at trends see what people like Barry have worked hard to generate, to give me some assistance on where we are going. In the pulse crop market it is really quite interesting, when you look over the last many years the introduction of change is always difficult but the grower has less difficulty with this because he has changed in my opinion, he has changed into pulse crops to increase his opportunities. I came out of the seed business, before I got into special crops, and the seed grower have the same thing, they look for opportunity and they make there changes willingly but ahead of all infrastructure changes. So you have the first player in this game making a change by choice and then you have the rest of us, the traders, the transportation infrastructure that has to sort of go oops, now what are we going to do? We have got feed peas now up to about 1.7 million tonnes, that is a lot of product that is moving in a fairly unrestricted atmosphere from a trade standpoint and where we come down to is the restrictive nature of our transportation system that was designed for a totally different purpose. So now we have to figure out what is the fairest way to change and how do we do it, how do we best serve the grower and the companies we work for. But again it is here and it is going to continue I think,
if Barry kept on going on that trend line it was going to get a little astronomical I think but the trend line hasn’t shown too many signs of decreasing or losing energy and this is a huge shift that we are going through in transportation from the Wheat Board administrative environment to a much more open environment. An environment involving many different companies many different associations many different motivations but money is at the bottom of most of them. Another note I made is while Barry’s presentation on history is very valuable, what we in the trade try to concentrate on is what is happening right now, today, and therefore we can try to answer our customers questions is the market going up or down, when I say our customers, I mean our off shore customers. The farmer clients that we work with, same question are the markets going up or down. I am going start making my seeding plans, I’ve already made some as far as crop rotation commitments that I want to stick to and we try to come up with the flexible supply and disposition report. We see the statistics that come out of here and we try and relate that to production and consumption patterns in the markets that we sell to and that’s trying to decide where we are now so we can take the two of them and try and find out where we are going to go in the future. I thought I could give some insight beyond where pulses are going in the future and on feed peas the trend is well established the new markets that have come on, China being the most exciting one, where they are taking sort of a feed pea and they like the yellow pea but they will take greens. They take the least cost product in large volumes, speaking to David Nuzik just before the meeting and he said about one hundred and thirty thousand tonnes of pea have moved through Vancouver so far this fall, or perhaps it was September, all I know is that is was massive and we participated in that and are still participating in it. This is business that wasn’t there before, the Indian market was taking green peas but they have now taken second stage to the Chinese market. Again it is a price consideration, new factors are coming in what is important to the Chinese buyer is not so much FM, in a separation process he get the FM when he soaks the peas. But they don’t like splits because the splits turn into mush before he can get it into his milling process so there is another factor in handling we have to consider. Another new factor coming on strong on stream is an affiliated company Pacific Elevators with a brand new belt system that will be exclusively for ag. products. On direct hits we have always had to compete with potash and that is a nightmare when you have a forty or fifty tonne vessel awaiting to come on berth and your little six thousand or ten thousand tonner is in the way guess who moves. We do, and that costs money because it is demurrage and lost time, its rail demurrage and it is frustrations. The main thing, I think as an association, people involved in transportation can do to assist this move to the future, assist in the move that the grower is making to change is to listen, to communicate effectively. I am trying to think of different examples of how you communicate effectively, this is the biggest challenge in my business, in one word, you can get two different results, you can have two individuals, they are both dressed in camouflaged gear, they are both armed, and you say duck. One will hit the ground and flattens out the other person looks up and says where? Because one is a soldier and one is a hunter. So if you pay attention and know what your audience is you can say the right message that you really mean to say and people can be effective. But if I run into anything that really drives me nuts in this business is when people listen to there own agendas and translate what they are hearing into their own agendas. That is the challenge that we as traders try to overcome by being the best listeners we can possibly be. We have to listen to people coming from the Algerian culture that is very active in shipping lentils, we
have to listen to the Chinese culture, they are looking at values and volumes for next spring. We have to look at production in other countries it is certainly a challenging word. If I have to leave you with one single message, it is to become very good listeners at what people like Barry are saying, what our clients are saying what traders are saying and what our rail system is saying. I know they say we never listen to them we just keep on selling stuff and hope the cars show up. We do try to listen as best we can and improve those personal relationships. Thank you.

David Smith, Branch Manager
Panalpina

I would like to talk about the emergence of the special crops business in the early 1970s when I arrived in Winnipeg and how it has grown over the past number of years. Back in the early 1970s the bulk of the special crops business was small in that time in my point of view was maybe one or two hundred containers per year. This all used to move into the European markets and some into the Southern Mediterranean markets I guess this was due to the fact that the iron curtain was still there and Russia wasn’t supplying any of the European markets at that time. Over the past ten or fifteen years this business has snow balled back in the early 1970s we were moving around two hundred containers a year and we had a peak in 94/95 where we moved close to 11,000 containers. However, that was an abnormality I believe and it was due to lousy weather conditions and crops on a worldwide basis. We are now back to the normal levels of around 7/8000 containers a year. The markets over the past few years have tended to shift somewhat, with the iron curtain going down, a lot of the iron curtain or ex-iron curtain countries are starting to supply a lot of Europe and consequently the traders such as Rob have had to find other market areas and we now see a lot of traffic going down into South America. Of the past few years this has increased dramatically, and from what I understand of the Special Crops Association this trend will be ongoing over the next few years. I guess more and more as the Ukraine and other parts of the ex-iron curtain countries start to develop that infrastructure and supply most of the European common market with their products. Over the years we have seen different products start to move, initially it was mainly the peas and to some degree the lentils but over the past few years we have started to see smaller shipments of what are called crop identifiable products starting to move out of the US Midwest and the prairie regions. Some of these are wheat and flax and just recently we were asked to move some containers of wheat out of Nebraska, to a large milling company in England for a test bake of a particular type of bread. If this particular wheat is acceptable to them then this will be a forerunner of larger shipments of maybe five to ten containers at a time on a regular basis. We are seeing the smaller and smaller shipments of wheat coming to fruition whereas before we used to move in shipload quantities. With the organic market growing more and more milling companies are looking for the organic wheat and the only way to get it is from the farmer in the Prairies or the Midwest US. With this advent of these different crops moving it is build up the business to the degree it has today. In return has brought its own problem with supply and demand of containers. Canada is a large exporter of raw materials ranging from wood pulp to nickel to the pulse crops. Most of these products move out of the country in twenty-foot containers Canada is a large importer of consumer goods such as radios, garments, televisions, and
things like that and these particular commodities move into Canada in forty-foot containers. So, we have a
tremendous imbalance of a large number of forty-foot containers coming into Canada and twenty foot containers.
This is an ongoing problem right now. We are not only short of containers but we are also short of the equipment to
carry these particular containers. This stems back to the early 1970s, when the vessels that plagued the North
Atlantic or Pacific ranged from between 800 twenty-foot equivalent units out to around 1500 twenty-foot equivalent
units. These days people thought these vessels were quite large however over the years the size of these vessels has
grown tremendously they can now carry six and a half thousand twenty-foot equivalent units. What has happened is
that if you take a port like Los Angeles or some of the west coast north American ports these particular vessels are
arriving, maybe two or three a week into this particular port and all of the containers off of these vessels has to
move into the US hinterland or to the east coast or up into Canada. This puts a large pressure on the railway system
down in these areas and sometimes you can look at one to two weeks just to get the cargo off the dock and move it
across to the US east coast. The Americans are very nationalistic and what they tend to do is keep these particular
railcars in their system rather than allow them back into the Canadian rail system. This causes a great demand on
the Canadian system. Right now in Saskatchewan we have been waiting for something like two weeks to get
railcars of empty container moved into Saskatchewan itself. Of course the shippers who can’t get the containers
inland have to move the cargo to Montreal to load this puts the pressure on the trucking industry and the railways
alike having to supply more equipment which is already in short supply. As the months develop the problem
compounds itself until we get back to the spring when everything seems to get back to normal again. Another
contributing factor to the increase in business is that the number of lines, of steam ship lines, that have decided to
run serves either in the north Atlantic or in the Pacific, if you look at the number of lines over the north Atlantic
right now there are probably ten to twelve different steamship lines. We have an over abundance of vessels in the
market place. Which is good for the shippers to some degree because when you have a large abundance of space the
vessels have to fill them so the freight rates tend to drop. However, once the freight rates drop we ship more cargo
because the price is more competitive and so we come across this problem again of everything snowballing and
compounding itself. The rates seem to go in a five-year cycle, you will get a drop in the rates and over the next five
years they tend to increase. I think in the next few years we will see a moderate increase in the freight rates and this
is due to the fact of these large vessels that are now crossing the Pacific. These vessels are carrying three to four
times as much cargo as they used to but they are using the same amount of fuel and the number of crew as they used
to do with the smaller ships. They can afford to give these discounted rates. Recently I heard of a rate out of
Vancouver into Korea on forty-foot containers at around $800US per container. Includes the dock charge at the
Port of Vancouver as well. As most of you know, you cannot move a shipment of lentils from Winnipeg to
Vancouver for that price. The freight rates are at an all time low at this particular moment and more and more
people are taking advantage of it. Once these freight rates get down to this low level it takes cargo away from the
bulk shipments for instance, ten years ago the rates on the Atlantic were at an all time low of around $600 Cdn for a
container at that particular time we saw a sudden influx of shipments of canary seed which usually goes in bulk on
conventional vessels this now has all switched to container traffic. We have seen a similar situation on the west
coast whereas Colombo who imports a large amount of peas, the freight rates there have dropped down to just over $1000 from just short of $2000. These rates dropped within a period of two to three months. If you take the rate of $1000 and you look at 20 tonnes per container it works out to be $50 a tonne which is getting down to the rates red levels of the great bulk carriers where they carry 5-10 thousand tonnes at a time. The decrease in rates has a major impact on the amounts of cargo that moves out of these provinces to oversees markets. One of the major problems is that every thing seems to move at once, and as Barry pointed out this seems to be in October. Last year we had major problems its not as bad this year but the Algerian market decides to buy lentils then it seems like everybody wants to buy them all at once and everybody wants them shipped all at once. So last year, at the beginning of the season we had clients booking 50 to 60 containers at a time on a specific vessel. When we totaled up the numbers Panalpina alone had 200-300 containers all to go on this particular vessel. Of course now the supplier has to move the cargo down to Montreal to load so now there is a sudden amount of cargo given to the railways who have to move it within a time frame down to the port. Most of the cargo arrived in Montreal late and missed the first ship that has now put onto the next ship but on the next ship we have the same amount of cargo booked and now we have two lots of cargo to go on one ship and the ship was fully booked so cargo had to be short shipped to the following ship. We ended up with a huge amount of cargo sitting in Montreal waiting for space on vessels. This was all due to lack of equipment out in the prairies and the lack of foresight of buyers. What these buyers should have done was split up their shipments over a number of months and brought it into the particular area earlier than they would normally due. That is an ideal world and it will never happen, the same problems will happen again all the time. Most of the people blame the forward or the steamship line and we have broad shoulders but most of the blame rests on the fact that it is impossible to get the cargo down to the ports in time to meet the particular vessels. A new trend that is happening within the steamship lines is an around the world service. Once all the big players become involved will help our situation tremendously. That is the big Japanese, and Far East carriers, rather than plying their trade between the Far East and the west coast of the United States as well as having a service from the Europe into the Far East. What they are intending to do now is to have around the world service where their particular containers can come into Canada and used to go out on the same steamship line out of the Canadian or US east coast into Europe where those particular containers are loaded again and moved out to the far east and in this way the steamship lines have a consistent use of containers. This will keep them full and profitable. The next trend is that the vessels will be getting bigger. In the years to come we should see a large vessel that carries around 20000 containers and in the rear of the vessel will be a smaller sister ship that could carry one thousand containers. These particular vessels will sit off the ports of say Los Angeles for Vancouver and the sister ship will load the cargo for that port, go into the port, discharge it and load with the export cargos and move out to the mother ship and load onto it. With the advent of this you can imagine what will happen to the freight rates if you have quite a few of these vessels playing the world trades and the rents will be coming down tremendously. The only problem with this is that some of the ports are unable to handle these bigger vessels. The Port of Vancouver recently opened Delta Port, they have the foresight to buy Guntree cranes that can move out over the water 100 feet so that they can accommodate these larger vessels. The port of Montreal has done the same thing,
however, in Montreal the size of vessel is limited to the depth of the river. The biggest container ship you can get into Montreal is about 2200 TEU, and next year will be 2800tdu vessels moving out of this port. But instead of the vessels being deeper they are wider so the ports must accommodate these wider vessels. In fact, Atlantic container lines built a RORO Ship, which carried about 2200 containers as well as various equipment. When they built it, its maiden voyage was from Halifax to Lauhala and when they got there they found they could not unload because the ship was too big to get into the port. A lot of people have to look at what they are sending where.

**Questions**

Q: Dave what would you say would be the ultimate limit for these ships in terms of TDU size, 10000, 8000??
What they can draw from a hinterland??

D: I think in Vancouver, in Delta Port they can handle a ship that can carry eight and a half thousand TDU, but I can see them getting bigger and bigger. The way that they are building ships these days and the engines they have in them. They have seven cylinder engines that run on one liter of fuel in an hour. These engines are capable of powering bigger and bigger ships.

Q: For smaller ports do you foresee a day where an offshore floating container platform could occur? Like the configuration at Delta Port, go way out in the ocean and just have a rail line to shore?

D: There are some ports like that, that have lighter barges where the vessel will come well into the port but just outside the port and the barges are sent out there to take the cargo. In fact I know on the main voyage of one ship they sailed it out of Japan fully loaded for Hong Kong and it couldn’t get into Hong Kong because it was taking too much draft and they had to bring barges out and offload onto these barges.

Tisdale: I neglected to comment on one point of Barry’s where he is showing the chart about the differential freight rates, to decrease the freight rates, perhaps to extend the shipping period to offer some discounts to buyers to consume. Then Dave alluded to the Algerian situation, and yes in a perfect world we could get these people to spread things out. I thought that was a good example of how the world ticks, and that Algeria is a Muslim country, Ramadan keeps moving forward every year by about ten days or so. Therefore it keeps moving closer to our harvest period and in time it is going to be occurring right during our harvest. Ramadan is a six-week festival period where during the daylight hours there is not too much physical labor happening. So business is occurring after sunset. The buyer wants his lentils in stock, in the country prior to Ramadan starting. That is rule number 1, he doesn’t care what we are doing over here, he says get my lentils over here now. Then they distribute for the rest of the winter period, and then come spring you they see what is left over, if not too much they will buy a bit more, other than that they will start looking at next years program to try and start shipment in August instead of September. But this is something, instead of looking at what we can try and do this way, you still have to go, listen to the culture you are shipping to and say no we have to do something else. That is try and shift **tape ended**
I am sorry to intrude I am sure you will all be able to maintain your discussions in a fairly quiet way. We have two or three speakers to squeeze in before we reconvene at one o’clock. Barry has made reference earlier in the day and you have seen in your program the Kent Healy Memorial lecture and those of you that were looking in this direction, the poster on the wall has some of the history lesson. We have an introducer of the Kent Healy memorial Lecture and then a speaker, both men are American, both have a lot of ties, both have a lot of experience with short line railroading. So while this isn’t a shortline railway conference I know a lot of you have interest in that and here is your opportunity to perhaps speak with these gentlemen a little later. The introducer of the Kent Healy Lecture is Mr. Howie Teschler, from Detroit he is vice president of FCM Rail and he had a twenty-year life with the Canadian National in the US grand trunk. Also was involved in bidding on that line to Churchill, to show you there is competition out there with the short lines. Currently they are in the finance and the leasing and the maintenance of way for the ventured rail lines and with no further ado I will let Howie give you the background on the Kent Healy Memorial Lecture. Thank you

Howie Teschler, Vice President
FCM Rail

Thank you Doug. Ladies and gentlemen it is a pleasure and honor to be here with you today in Winnipeg. I want to take a few minutes to talk about Kent Healy. Kent Healy was my professor when I was at Yale and the economics of transportation and railroad operations curriculum. He was truly a great man. As I say I am truly honored to be here particularly representing his legacy. He made a profound impact on railway transportation, he was at Yale for forty-two years and he was among the first to approach transportation problems from a disciplinary perspective combining the tools of engineering with modern microeconomic and location theory. Professor Healy among other things was a director of the New Haven Railroad, author of several books on transportation and my classmate Ed Burkhart is a particular example of the type of student that came out of Kent Healy’s program. Ed as you may know is the CEO of Wisconsin Central, English Welsh and Scottish railways the principal carrier in the UK, Transrail the New Zealand railway and also just recently bought into the Tanzanian railway in Australia. So as an example the guest speaker Kent Shoemaker, dad was one of the first students and another example of a CEO in the railway industry. The whole thrust of the Kent Healy Memorial Lecture is really to encourage persons such as yourself, young men and women especially to choose transportation careers. Particularly in railroad management and engineering and operations. To encourage training in this area, upon Professor Healy’s death in 1985, the alumni set up a fund and today you are participating in this legacy of the fund for the Kent Healy Memorial Lecture here in Winnipeg with Kent Shoemaker as the speaker. I would like to close by saying, when I think back upon my
graduate and undergraduate with professor Healy it was exciting to sit around his seminar table in his office, his library with his books all around and the tremendous interest he showed in young students such as myself made a lasting contribution. certainly in my life and in those of his other students. Kent Shoemaker, Ed Burkhart, Downing Janks, John Reed, some of you may be familiar with those names. With that I would like to close by just again thanking you for attending this lecture and I wish you all well.

**Doug Campbell**

**Luncheon Chair**

Our next speaker is Kent Shoemaker, Kent is the chairman and CEO of Red River Valley and Western Rail Road what a romantic title. Also chairman and CEO of the Twin Cities and Western Rail Road in Minnesota. Kent graduated from the University of Michigan with a Bachelor of Science in industrial engineering in 1957, and joined the B & O, Baltimore and Ohio Railway and advanced through various engineering, transportation, and strategic planning positions with the B & O and the Chesacreek system or the CSX system as we know it today. He moved to Minneapolis in 1965 and joined the Sioux Line where he held several planning and line positions and advanced to the position of AVP of operations. He subsequently served as president and CEO of the DTI Railway (Detroit, Toledo and Ironton) in Detroit and the Delaware and Hudson. For you Canadians who are not familiar with all those names the Delaware and Hudson or the D &H is the most efficient link between Montreal and Philadelphia and was a very active take over purchase candidate with both CN and CP bidding on it and CP taking possession. When was it, Kent, about 1989, 90, 91? Could not hear the response. Kent then formed the Red River Valley and Western in 1987 and the Twin Cities and Western in 1991, he has also served as a transport consultant and is a gentle partner in investment, he is married with three sons, an avid sailor and fisherman, works hard at tennis and before starting these two railways he was a consultant with the start up of many short line railways. With no further ado, please welcome Kent Shoemaker.

**Kent T. Healy Memorial Lecture**

**Kent Shoemaker, CEO**

**Red River Valley & Western Rail Road**

It is a pleasure to be with you today. As you might gather from Howie Teschler's comments, delivering a commentary worthy of Kent Healy is an imposing task. There are few academic programs around that have stood the test of time like the Strathcona Fellowship Program that Kent administered at Yale for over forty years. The program was named to honor Donald Alexander Smith, an incorporator in the Canadian Pacific Railroad, who was honored by Queen Victoria with the title of first baron of Strathcona and Mount Royal. Lord Strathcona, as he became known, supported Yale University's transportation course. In fact, he is depicted in the mural on the wall here, driving the last spike.
The graduates of Kent Healy’s program, as Howie Teschler mentioned, are well known and have dominated the "who’s who" of railroading for many years. They include at least seven railroad presidents. The continuing respect shown to Kent's work in both the academic community and from his former students is remarkable. Although Kent passed away in 1985, his former students, most retired, still regularly meet to raise funds and find opportunities for college students.

I met Kent Healy when I was very young through my father who was his first student at Yale in 1928. Several years later my father arrived in New Haven Connecticut to join the New Haven Railroad, but our furniture did not. It was Kent Healy who came to the rescue, providing food, a mattress, a bassinet and pillows. In case you have not guessed I was named after Kent Healy. So, as you can see, when Barry Prentice asked me to present the Kent Healy Memorial Lecture I had no choice but to accept. Today I am going to talk about transportation deregulation from a US perspective, the return of growth to the railroad industry, the spawning of new regionals and short line railroads and future challenges. I will try to direct my comments toward agriculture given my audience.

The railroad industry, like other industries, has been subject to a startling amount of change over the last two decades. Today this change is accelerating. Railroading and agricultural interests have long been and continue to be deeply intertwined, although the relationship has not always been rosy in both the US and Canada. Many of the problems date back to the abuses of the Robert Barron days of the early 1900s which caused governments in North America to intervene into the transportation industry, where it stayed until the 1980s. Over time competition from other modes, particularly motor carriers, grew dramatically. However, neither US nor Canadian governments recognized the public benefit that could be gained from pricing freedom. In addition, the losses from subsidizing passenger rail transportation increased with the growth of the airline industry and increasing use of the private automobile. As a result, by the beginning of the 1970s railway bankruptcies began to occur. Although the 1971 legislation that created Amtrak helped mitigate passenger losses, further erosion of profitable merchandise traffic continued, resulting in many railway bankruptcies throughout the 1970s. At the time, many people thought that the end of private railroad structure in North America was immanent.

The rebirth of the railroad industry in the 1980s and 1990s has its origins in the massive consumerism movement of the 1960s, which pressured for relaxation of government regulation of the transportation industry in the United States. The airlines were the first to be affected followed by the motor carriers and finally the railroad industry. The deregulation movement is still alive and well as witnessed by the telecommunications industry and the electric utility industry. During the 1970s motor carrier rates remained nearly constant as the industry struggled with increased pricing freedom. During this period many large national trucking companies failed. Meanwhile, the railroads lost much of their more profitable merchandise traffic as they raised rates in the face of a 30 percent increase in their expenses. This was the low point for the railroad industry. Finally, in October 1980 the Staggers
Act was passed. It has been described as the most complex piece of legislation ever passed through the US congress. It not only provided the basis for pricing freedom but also a process that gave Class One rail carriers the means to reduce branch line losses. By 1985 the Interstate Commerce Commission had issued exemption proceedings permitting newly formed companies to acquire branch lines from Class One carriers through an abbreviated regulatory process. Also, the new short line operators were exempt from historical work rules and therefore not bound by commitments to long-term job protection. All of these changes provided the basis for railroads to stem their losses. Over time they learned to live in a competitive deregulated environment. The process was not easy, however, as deregulation eliminated the protection offered by regulated pricing. Eventually the railroad industry became a growth industry again after almost sixty years of shrinking market shares.

Today the railroad industry is healthier than it has been in fifty years, in large part because of the growth of intermodal transportation as railroads, barge companies and motor carriers blend their operations. In recent years railway intermodal growth has received a strong boost from the escalating expenses of long distance trucking. The formation of short lines and regionals in the US has been an amazing success, but it would not have happened if legislation had not provided for the large railroads to shed light density lines. Before talking about short lines I am going to tell you a little about a Soo Line marketing effort I was involved with which changed my perspective on railroad marketing opportunities.

In the early 1970s Soo and other carriers of wheat, durum and barley from North Dakota to the Twin Cities (i.e. the Port of Duluth and Port of Superior) found themselves in a difficult competitive situation as trucks had taken more than 50 percent of their traditional traffic. Even with lost business, carrier shortages existed at times. Railroad costs were substantially lower than motor carrier costs so obviously railroad rates were too high. The marketing personnel at Soo were worried that a substantial rate reduction would simply dilute revenues because inadequate supply of freight cars would prevent them from regaining much traffic. At the time I was a relatively young manager and had only recently been placed in charge of transportation operations. The transportation and grain marketing personnel were directed by the president to work together to develop a marketing strategy that would recover lost grain business and deal effectively with the car shortage issue.

At the time unit train structure did not exist in the country so our planning effort resulted in the creation of a totally new set of rules governing loading and destination, free time and other provisions that limited decisions and required naming the destination elevator at the time of billing. These conditions had to be met before shippers were eligible for new rates. The rates could be applied to single car shipments and included a 20 percent rate reduction. The rules provided each shipper with a ten-hour daylight period in which to load and bill a shipment. We arranged transportation service so that the cars placed at branch lines stations would be placed and pulled with the same crew, at most 24 hours after spotting. Traditional handling was such that grain cars averaged more than five days at load point because the branch lines were not served daily and billing was not rendered until the crew that placed the
empties was long gone from the line. With the new rate structure cars averaged only eighteen hours at the load point. The rule requiring that the destination elevator be named at the time of billing resulted in much improved transit times. Soo improved its car turn around cycle from twenty-two days to less than twelve -- a remarkable improvement -- thus enabling the railroad to efficiently handle the increased traffic. The Soo's market share returned to 80 percent in less than a year while the agricultural community enjoyed the benefits of a 20 percent rate reduction.

I learned some valuable lessons from my experience at Soo. First, a vast improvement in car utilization can be achieved by closely tailoring tariff requirements with specific service design. We achieved this without making additional investments. Second, transportation personnel should have input into the design of tariff structure and be committed to produce the necessary service. Third, improved service reduces operating expenses. And fourth, major improvements can be achieved if transportation managers are motivated to turn wasted car days into revenue (as you may know most operating managers of large railroads are measured on expense control and thus are budget driven -- they have no responsibility for revenue). The final lesson is that marketing execution should be everyone's responsibility.

Most of you are no doubt aware of the large increase in the number of short line operations in the US, as more than 240 new companies have started in the past ten years alone. What you may not know is that short lines and regionals have a wonderful record of growing business volume. Indeed, growth rates of 50 to 100 percent in only a few years are quite common. From those numbers you can see why the large carriers have continued to spin-off lines. In most cases these are lines that were losing operations, were faced with continued traffic erosion and often had serious deferred maintenance problems.

As I mentioned these impressive growth rates in the railroad industry are due almost entirely to intermodal growth and increased business from short line connections. Why have they been so successful? In a nutshell because local managers were empowered to make decisions and produce the actions necessary to satisfy customer need immediately. Most short lines have multiple task-trained personnel where just about everybody, including train crew members, have a customer focus. In fact, short lines often act as advocates for their customers in dealing with the large railroads, especially in trying to get answers addressed promptly. This includes not only rates but also service problems and freight car equipment supply. Because decision making in most large railroads is difficult and bureaucratic, most small customers and often even large important customers do not get adequate attention.

The Red River and Western Railroad (RR&W) just had its ten-year anniversary and in 1996 received the Regional Railroad of the Year Award. The RR&W is a spin-off from Burlington Northern with which it remains a close partner and is comprised of some 860 miles of line operating mostly in North Dakota where we serve wheat, durum, barley and sunflower producing areas. We also originate corn and soybeans on our lines near the South
Dakota border. In total the RR&W serves 70 grain elevators, a large sugar beet plant, a newly located corn fructose plant, and the Melroe company (producer of Bobcats and the largest manufacturer in North Dakota). Before the arrival of the RR&W not a single carload was handled by rail to Melroe for many, many years. They are now one of our largest customers. Our overall business has grown from 19,000 carloads to over 30,000 in 1997 and we expect to exceed 35,000 carloads in five years. My experience with grain marketing 1970s had a very significant impact on our thinking at RR&W. From the beginning we made the rapid turn of freight grower equipment a priority, it even effected the conduct of our negotiations to purchase the line from the BN in the first place we have continually worked hard to turn freight cars faster to and from our stations then our class one connections can accomplish at their own stations. Our demurrage rules for single car, multiple car, and unit train shipments are all more restrictive than those of our class one connections. Are objective is to ensure that our Burlington Northern Santa Fe partner is not disadvantaged by giving Red River empty car days, cars during car shortages. We do our best to move shipments in less than a day after placing the empty equipment often with the same crew that placed the car. I have never had a complaint, from a customer that our loading rules were unreasonable. We concentrate our effort on employee development programs and try and keep all employees well informed of our problems and progress. We believe we pay our employees well, at the high end of local wage rates. No not as high as the class ones, but we do have a profit sharing plan where we share with employees. The payout over the past three years has exceeded twenty percent of the payroll earnings each year. Our managers and our hourly employees are subject to the same fringe benefits, which incidentally include long-term disability from on job, or off job injury as our employees are multiple job trained it has never been necessary to lay people off. To spite the seasonality of our operations and variability in activity that has produced by the strength or weaknesses of the grain market. During spring planting and road restrictions we routinely use train crews members to assist with track work. We empower our managers on the ground to make decisions concerning daily operations, car supply and rigs. The Twin City and Western Railroad is similar RRBW in that it also has a large sugar beet plant and services 19 country grain elevators that handle mostly corn and soybeans. Personnel policy and pay structure are similar but there the similarity ends, TCW operates from St. Paul Minnesota and serves customers to the South Dakota border. It continues into South Dakota to serve another short line. TCW was a Canadian Pacific main line spin-off, commencing operations in 1991. TCWs line has also grown considerably and we expect about 16000 carloads in 1997. One major difference with TCW is that it is a rate measurer and works progressively with all Twin City connections. We also assume the responsibility to supply cars to rural customers. Another major difference is that TCW handles a large volume of corn and soybeans to barges on the Mississippi River. The whole operation is local in that TCW handles the complete movement with its own crews. This is against conventional wisdom, as railroads, even short lines are not suppose to be able to profitably handle short haul grain. During car shortages TCW handles its grain cars, turns its grain cars three times per week for most of our elevators to the river the barge load is about 1500 hopper cars a barge shipment is not loaded today unless a barge is available to unload the shipment tomorrow. Our utilization permits us to use about one fourth of the cars that were used before we began operations. From our experience we are convinced that railroads can compete effectively for short hauls particularly with both commodities provided a
high level of equipment utilization is achieved. Red River Valley and Western is also in the short haul business. It is handling a small amount of gravel during most of the summer, a small unit train of gravel excuse me, and corn from RRBW is being handled to a new large corn fructose plant that is located in Wahpeton. That corn plant was located there due to the whole value added movement of processing in the country. Everybody told us ‘you can kiss away any corn going into the plant, it is all short haul and you’ll have to make it up on getting fructose shipments out of the plant’. Well we have had both so far. I think the difference really is, is that and you folks might recognize, is that if the corn comes from an elevator in other words is moved off the farm into the elevator we invariably end up handling it because quick turn around rates and turning equipment every day or every two days at the most permits rate structure that no motor carrier can compete with, even in short haul. That is essentially the reason why we do that, obviously if the farmer sells directly to the corn processor he has one truck delivery and we don’t see much of that.

The challenge of improving productivity is no less necessary on a short line than it is with any other business enterprise. There is continual competitive pressure on rates so that productivity and improvement is necessary to stay even. As you may know the nature of railroad operations is such that much of our expenses tends to be fixed in nature. Not only is this due to fixed cost but is also due to the fact that most train crew assignments can handle additional traffic with relatively little additional cost. Incremental business growth accordingly is often very profitable, we say in the business that only fuel costs and freight car ownership expense are variable. In the railroad business ones productivity can look deceptively good with growing volume. The more difficult challenge is to reduce fixed or largely fixed expenses and at the same time and provide quality services.

I thought you would enjoy a brief video of the Red River operations in North Dakota, and some Twin City Western operations in Minnesota. The first part of the video concerns the never-ending battle with of plowing snow on Red River. These scenes were taken in 1993 and 1994 as we practiced for the 1996 and 1997, winter season when all time records had been broken. The second half of the video, after the snow scenes, you are going to see what looks like a very ordinary train running along with grain cars and then it will arrive at a bridge. I am going to have the sound turned off during part of it so that I can explain what we are up to with this operation. This operation is in North Dakota on Red River, mostly filmed in 1993 and 1994 as I mentioned where we had particular drifting problems. This part of the railroad the hillside were not graded off when it was originally built. This part of the railroad has some cuts that invariably fill up with 15 to 20 feet of snow the difference is every year we have this on these particular lines, last year we had this everywhere. Since these pictures were made we subsequently have purchased on of these snow blowing machines you will see in a moment and I think you will find it particularly interesting because we had snow drifts of twenty, twenty five feet last year, that were drifting over the track were we had never seen any snow drifts before, it had always blown clean. Part of the emphasis here is you will notice most of our people are relatively young and the productivity we have had out of people fighting problems, including the floods that followed, you will see soon. Film plays. You take pictures on a nice day, these guys are out working in
blizzards too, and obviously you can’t see much if you take pictures on those days. These kind of machines, last winter operated almost twenty four hours a day, weeks at a time, you had to run them ahead of trains and behind trains because this kind of equipment was basically made for the Rocky Mountains and weren’t meant for flat country. You will notice he got out there, we call North Dakota snow in the winter ‘Snirt’, it is combination of snow and dirt. With a good hard wind behind it, it will pack in so that you don’t even leave footprints on it. That is why you say that guy just hop right out of the locomotive right onto the snow. When they are running they only go about three miles per hour. That is why you don’t use them in flat country because the class ones think they are very uneconomical and they are right, as opposed to running a plow at forty miles an hour and kicking snow out. If you don’t have the track speed however that kind of plow is worthless. You can see the units there about buried. It takes one locomotive unit and all electrical power it will generate just to drive the turbines and equipment on the plow the second unit is there to drive everything. We don’t stop at night either, of course. Tough snow as you know is mighty tough on deer herds and we had a minor accident were we split a car open right in the Town of Edgely, the amazing thing is that before anybody got there from the town the deer found it. They were in there within twenty minutes of the accident. I’ve taken this out of a film we have of snow fighting in general, this happens to be a little piece of it. This is the nearest thing I have to show you of when the wind blows how it tends to look, you can’t see very far. The trick is to throw that in the direction the wind is blowing. Now we are switching to this, it was a few weeks ago. What you are looking at here is Twin Cities and Western right in the outskirts of Minneapolis this may look like a very conventional operation to you particularly pay attention to this unit 303 because it has got no diesel engine in it. This is what we call in the trade a slug engine. It used to have an engine in it but those after forty years old and ten tough years on Red River got tired. Now here is the same unit head out, you will notice it looks just like a regular unit we have kept the cab on and what we are doing with this is, after a lot of study we found that almost forty percent of the time an engine, locomotive, is operating the diesel is running. It is sitting in the first notch, in other words at idle. As soon as you can find a way to run a slug in other words, it is using power that is being generated by the adjacent unit. In other words the generator on the powered unit we are running it to eight traction motors. When you have railroads optimum speed of twenty-five miles and hour or less there is no reason not to. You will be amused at this one, this is a bridge right outside of a very large terminal complex where for our operations to and from the river in Minneapolis. This bridge used to have two operators on it seven days a week, twenty four hours a day to open and close the bridge for traffic what we did and it took us a while was put a little more sophisticated garage door on it so the crew now runs it themselves. That not only turns the bridge automatically after you check with the coast guard of course but also the lock mechanism is in place too. Thus what we are attacking here, and the other thing I didn’t tell you about that slug unit that was coming down is that when you have fewer units you have less to maintain. So what we are really doing here and the last thing I want to tell you is that these are Caterpillar locomotives made by the Caterpillar Company. They thought they were going to challenge GE and General Motors in the locomotive business but then the horsepower race got ahead of them. This is the bridge now closed and the trains coming across into the grain terminal. By the way we routinely leave the train engine there and let the crew go to rest and six or nine hours later after the cars are
unloaded we take them right back, they are only at destination for eight to ten hours. Now there is nothing unusual about that in terms of the motor carrier industry but we as railroads are not used to doing those kinds of things.

Before I close with remarks, let me make a few comments about some future challenges that we have ahead of us in the industry. Most short line shipments as you might imagine are typically when you exclude coal, 20% of shipments in the US originate or terminate on a short line. That tells you how far that movement has gone. Accordingly short lines and the large class ones are interdependent partners like it or not. In my opinion organizational structures of large railroads simply has to be addressed so that large carriers are more responsible to customer needs. Most large railroads are simply out of touch with their customers particularly the small ones. Accelerated merger movement has made the problem worse, few local managers have the freedom to make decisions. The large railroads all have a centralized system structure that while it may be helpful dispatching trains and locomotives, decision-making is very difficult particularly if there are multiple departments and issues involved. It may make sense if they organize into semi autonomous units where operating decisions can be made promptly, commitments can be made and the impact on the alternatives can be readily understood. The next item is the challenge to provide safer operations is going to be thought of in an entirely different framework in the future. The public simply is not going to tolerate train accidents where there is loss of life and the threat of actual injury from hazardous commodity accidents. This concern is going to impact all levels of activity in our business and it is going to be very expensive. The deployment of high capacity cars is going to be very important and affect the survival of many branch lines and perhaps even some short lines. Many branch lines are simply not capable of handling two hundred and eighty six thousand pound axles loadings, much less the three hundred and fifteen thousand pound capacity cars that are now under active test. Particularly disturbing would be the impact to the agricultural community in particular and the branch line towns in general. If grain rates are set to favor the use of such cars on main lines. Thank you very much for your thoughtful attention today, I close with the knowledge that Professor Healy would have loved to participate in such weighty discussion. One thing has not changed since Kent’s day and that is leadership is the key to all new direction and the solving of transportation issues. We need a continuing influx of the kind of leaders that Kent Healy nurtured. Thank you

While Dr. Barry Prentice comes up to formally thank Mr. Shoemaker, sir you may not have realized this but you touch on every nerve in the Canadian grain handling and transportation industry and there is a long list of clients lining up you may have thought it cost you a lot of money to build that video but CN, CP and the Canadian Transport Agency, let alone the Canadian Wheat Board would like to purchase that video from you. Dr. Barry Prentice.

Thank you Doug first let me start by saying that we appreciate very much the support from the Kent Healy memorial foundation to sponsor the first Kent Healy Lecture in Canada. Your topic, Kent is extremely pertinent to our region as Doug has just mentioned especially as we know go through a phase of deregulation and the topics of short lines are certainly high on the agenda. As we discussed privately I think the theme of this conference for me
will be closing the circle. It is interesting as we sit in a CP Railway Hotel, with a painting of Lord Strathcona on the wall, who founded the chair of rail studies that attracted your father and no doubt your interest in the rail industry. I might also point out that it was also Lord Strathcona’s railway that gave Vic Stechishin his first employment in transportation and sparked his interest, so the circle seems to be closed in many ways. It is with considerable pride that the University of Manitoba hosts the first Kent Healy Memorial Lecture, I think there could be no more appropriate person to deliver this lecture than the good professors namesake, Kent I am sure Professor Healy would have been very proud to have been here today and let me just present this small token of our appreciation in memory of this day. Thank you very much.

In the theme of Professor Healy I am sure he would have opened the class to questions if anyone would like to ask one or two questions before we return, we are a bit late, we don’t have much time, but if there is one or two I am sure that Kent would entertain them. One back in the back?

Q: Unable to hear the question.

Kent’s Answer: Let me try, I don’t know of a short line that has been started where one of the few concerns of the shipper communities was staying power. Frankly it just hasn’t been a problem any more than some weaker larger carriers when you have not only the new start ups that I refer to but probably one hundred more, so you have in excess of 300 companies obviously you will get your strong ones and your weak ones, well managed ones and ones that maybe could use a bit of help. We are not insulated from the failure issue, in fact I think the probability is we will see some failures in some short lines from time to time. But as a general rule it hasn’t been an issue one of the reasons it hasn’t been an issue is the very growth I talked about you can not finance in banking circles today, equity money is something else, but you can’t finance in something that is on the calm. Accordingly all the growth that has been achieved and it has almost been a universal situation that growth has been achieved. Keep in mind that growth has been achieved while in most cases the selling class one has retained a rate making, and yet that growth has come. That growth has basically insulated most of the industry from the kind of concern you are raising.

Doug: Thank you again sir, I think he will be around for about another forty minutes I think there are some people who would probably like to talk to him. We have got to get going to the next section. Two quick acknowledgments firstly to Rob Tisdale, Dan Stirling, and David Gardiner, for last minute filling in on speeches. And secondly to Jill Dutka and Tamara Thomson for all the work they did to put this together, thank you both very much. We are now reconvening and for those of you not familiar with the underground Portage and Main you go around here turn to your left, up the escalators, straight ahead and turn right back to the original meeting room. Thank you.
If everyone could get settled in please. If I chair to many of these sessions people will begin to learn my operating habits where I warn you I am going to call you back a bit earlier than I actually do. We are still on track to finish of the day as expected. For the second part of the afternoon session we are talking about gateways for grain looking forward to 2010 and for the initial speaker as presenter we have Brian White who is director of the market analysis department of the Canadian Wheat Board. Brian has been the director of the market analysis department within the Canadian Wheat Board since June of 1990, from 1987 to 1990 he served as a marketing manager in the Wheat Board sales department with his sales territory being the Soviet Union, all of Europe and North Africa I think we know why he is no longer responsible for the Soviet Union. From 1985 to when he first joined the Canadian Wheat Board until moving into sales in 1987 he was the market analyst in the Wheat Boards market analysis department responsible for analyzing the grain situation in Western Europe. Brian holds a Masters of Business Administration degree in marketing from the University of Toronto, and a MA degree in Russian history from Carlton University in Ottawa. He is fluent in Russian, French and German and lived for a year in the Soviet Union during his graduate studies I believe his presentation will be in English today but if there are questions in Russian, French or German feel free to go right ahead. I have known Brian for some time he has got a wealth of information and I am looking forward to his presentation. Please join me in welcoming Brian White.

Thanks very much Doug. I want to thank the University for having the Wheat Board on the program today. Although as evidence by Paul Earl’s remark, even when we are on the program we’re on the program. It seems that we are always somehow going to get mentioned. What I want to discuss today is a version of our new long term forecast, I gave a version of this forecast at the Canada Grains Council meeting a couple of weeks ago now, I guess three weeks ago now, so some of you would have heard that version. This will differ only in the sense that it will be a little briefer less detailed and will focus towards the end on what we see as the likely directional movement of Canadian grains and oilseeds to export ten years from now. I will just mention by way of introduction that as we usually do, every two or three years we do a long term forecast, we try to take a long term snapshot of where things are going in the world grain markets for five to ten years down the road. You will see some figures here in these overheads which are the base year, historical year figures and they cover the period, crop year 1992/93 up to 1996/97 and then our forecasting horizon was both five years out which I won’t be showing you here so that was crop year 2003, and then ten years out crop years 2007 and 2008. Our forecast was not quite as elaborate as the last one in terms of the number of countries that we looked at there were fewer individual countries that we looked at in this particular forecast and there were fewer factors which we tried to forecast for. Even though there were fewer individual countries that we looked at we basically took a major players approach and tried to look at who were the major importers and who were the major exporters of grains in the world particularly the grains of interest to us which we are marketing which are wheat and barley. To give you an example to take one region as an example in
the Asia Pacific area we looked individually at the following countries: China, India, Bangladesh, Indonesia, Japan, South Korea, Malaysia, Pakistan, Philippines, Sri Lanka, Taiwan, and then all the other countries in that region we would aggregate into an others category and treat it as though it were a country and that would be true for all the other regions. You can see that even though we are dealing with few individual countries there is still quite a number of countries that we are doing forecasts for. As I said it is a major players approach we are looking at the sizeable importers and what the pattern of importing has been for those sizeable importing countries and then we are looking at the sizeable exporting countries and it is a bottom up approach where we look at each of these countries, we treat the others within a region as a single country and then we aggregate and then we adjust to the aggregate figures allowing for the picture that emerges of price and supply and demand tradeoffs. We haven’t quite finalized this forecast, we are just putting some finishing touches on it now part of the problem is that I have been out of the office for the last three weeks traveling in the country, talking to elevator managers actually. And we haven’t quite finalized it we will be finalizing it and we will be publishing it. So this presentation just gives you an over view of what we have done. A detailed look at it would require more time.

Let me just mention by way of explanation to begin with. What the key drivers are in increases in grain imports in the world. They are very simple to identify, it is populations growth, growth in per capita incomes, urbanization, and out of those comes dietary shifts typically in a country that if you look at the Asian region might be a big consumer of rice, historically, you will see a shift from rice to wheat as these phenomena kick in particularly the growth in per capita incomes and the growth in urbanization and then at a higher level of wheat consumption, you will see wheat consumption plateau and you’ll see a shift from consumption of wheat or grain products to consumption of meat products. Meat, dairy, poultry and other products. So that is the dietary shift that is ongoing that drives these kinds of things. Then whether or not a country can feed itself, does it face limits to grain production, or does it face production choices in which it is better for it to produce something else rather than grain. Examples of countries which face limits to grain production would be Iran, there is only so much grain that Iran will be able to produce; Algeria would be another example, Morocco, Tunisia, these would be examples of countries that face limits to production. Countries that have to make choices among crops that they could produce in terms of relative comparative advantage of producing those crops would be countries like Brazil and Argentina, and we have seen a big drop in Brazilian wheat crop production since the late 1980s as they realized it doesn’t make much sense for them to be producing wheat they should put that same acreage into soybeans and corn and import the wheat. So this is just the big picture, it shows you the trade forecasts, the base period and the forecast to 2007, in the base period you can see total world wheat trade was roughly 100 million tonnes and having gone through this forecasting process we are forecasting it will grow to 126 million tonnes I am not going to bother to discuss durum wheat I will just stay focused at the main level of the grain. Total barley trade in 1992, 1996 base period was about 15.5 million tonnes and we see it growing to about 20 million tonnes down the road. Malting barley is growing from about 3 million tonnes to about 4.5 million tonnes and feed barley shows growth as well.
In summary our forecast then says that world wheat trade will rise from about 100 million tonnes in the base period to about 126 million tonnes by 2007. The largest growth in demand is expected in the regions of the Asia Pacific and the Middle East. China within our forecast we found is a real wild card and in fact for all forecasters China is a wild card because we don’t know to what extent to which they can increase their wheat production and we don’t know about the extent to which their wheat consumption will increase. So there are various forecasts out there that range from China being even a net wheat exporter, to being a fairly modest wheat importer, to being a fairly large-scale wheat importer. I won’t get into this here but it is something we got into at the Canada Grains Council, those are the three possible scenarios that we could be facing and obviously if it were a net wheat exporter and not much of an importer at all we would have lower trade figures. World trade in durum wheat is projected to increase from about 6 million tonnes in that base period to about 8 million tonnes by 2007. We have already been above the 6 million tonne level so we are already up around that level in the last couple of years. With regard to course grains and barley within course grains there is strong growth expected in the world course grain trade from about 90 million tonnes in the base period to about 123 million tonnes in the forecast period. In the case of barley, most of the increase in barley imports is expected in Saudi Arabia and that would be imports of feed barley, in Iran imports of feed barley and in China, which is a malting barley importer. This just gives you a picture of the longer term trend in world wheat trade and you can see that Doug made this point actually, Doug Mutch made the point at the Canada Grains Council you can see through most of the 80s and especially in the early 90s as we lost the import demand that had been represented by the Soviet Union and as China wheat import demand fell fairly dramatically particularly in the last two years we have been in a pattern that looks like stagnation, and Doug raised serious questions, whether or not we could break out of this pattern. I guess all I am conveying is based on our forecasts which again is more of an inductive or bottom up type approach opposed to a deductive or top down type approach, based on our forecast looking at countries individually and allowing for some growth in the others, which you would expect, we do see ourselves breaking out of this pattern and going from about 100 million tonnes to 126 million tonnes over the next ten years.

I just want to give some idea of where we see that growth happening. I have ranked the countries in terms of the amount of growth that you see, that is the column change on the far right, and you can see that most of the growth in Asia Pacific, the Middle East, Africa, and Latin America. Then you’ve got a big drop off in some other exports to the USA and some other countries. Marginal increase in exports to Europe that is both Eastern and Western Europe and in fact the former Soviet Union or FSU, sees a decline in imports. You can see the growth is concentrated if you pick the two or three top regions, Asia Pacific, Middle East, Africa, but there is growth in Latin America as well. If you look at how the shares break out then, you can see that the share of world wheat trade going to the Asia Pacific region based on this forecast is going to grow from thirty two percent to thirty six percent, Africa actually is going to decline although there is growth in tonnage, its going to decline as an overall percentage, Latin America is going to grow very marginally and the Middle East is going to grow from 11 to 13 percent and the big drop off
again there you see in the former Soviet Union, which at one time was an importer of upwards of 20 million tonnes of wheat and now imports about 2 million tonnes.

Now if we look at the export side of the picture the number one wheat exporter in the world, the largest volume wheat exporter in the world is the US of course, and we see there exports growing by about 4.4 million tonnes. Our own exports in the base period there 19.1 million tonnes there is expected to be about 19 million tonnes in the same year that we are in now 1997-98, and we think they will grow to about 22 million tonnes over the ten year time frame. That may seem like fairly modest growth, and in fact we have had wheat exports from Canada above twenty five million tonnes, back in 1991, 1992. That may seem like fairly modest growth and its explained by something I am going to discuss a little later which is the likely acreage allocation or break out that will happen in western Canada and how much acreage will go into wheat, what production that will sustain and therefore what exports that will sustain. European Union, we see gaining about 4.3 million tonnes to go above 20 million tonnes, again they were up around that level not too many years ago, I’d say 4 to 5 years ago. The Australians 16.5 million tonnes, and the Argentines 11.5 million tonnes. Taken collectively these exporters then are accounting for about 88 percent of world trade. There are some others that will emerge on the exporting scene, either having emerged or will emerge on the scene over the next ten years in major way and those would be a couple of the former Soviet Republics, Russia and Kazakhstan. Then some that are already existing exporters like Syria, Turkey, and some others.

In term of the market share the US’s market share actually declines because world wheat trade goes up to 126 million tonnes, and there exports don’t go up by quite as much. Our own wheat export share declines, the EU holds its market share, Australia increases and Argentina increases. In Argentina there is still a lot of acreage that can go into wheat production, so if the demand is there they can gear up to meet it. Here is just the trade in course grains, I am just give you the overall picture and again you see the really dramatic growth particularly during the 70s and Doug alluded to the fact and when we discussed this before that if you’d drawn the trend line based on the 70s, if you were doing this forecasting in 1979 or 1980 you would think that the sky was the limit in course grains trading. Then we hit a period of stagnation during the 80s as well through the early 90s. Again it is a situation where the Soviet Union was one of the world’s largest corn importers, second only to Japan and used to import between 15 and 20 million tonnes of corn and now doesn’t import any. It has basically dropped out of the market and that has caused course grains trade to stagnate. We have been in the base years at an average trade level of about 90 tonnes, we think it can grow to 105 and then 123 in the ten year time frame and it is basically driven in our view off the key drivers I was highlighting before: urbanization, growth in incomes, and a change in diet as the shift towards meat, therefore more demand for feed grains. The major growth areas we see for course grains imports are again the Asia Pacific, particularly Korea, China, Taiwan; the Middle East, in that case Saudi Arabia and Iran; and Latin America, in that case Mexico, Columbia, and Peru.
If we zero in on barley, which again is the commodity of most interest to us here in Western Canada among the course grains. You can see we have had kind of a variable experience there was a time when I was a sale man doing business with the Soviet Union when we used to sell them between 1 and 1.5 million tonnes of barley every year. Now they don’t import any, out of the total exports of barley of about 4 million tonnes, 1 million to 1.5 million tonnes was going to the Soviet Union that was 25 percent or better going to the Soviet Union. That has had a big impact on world barley trade, which is where you saw that big decline in the early 90s. The base years average for barley trade 15.5 million tonnes as I said before we see it growing up to about 20, largely driven by Saudi Arabia, Iran and a few other countries. This does show you the regions where we see barley imports growing it isn’t ranked in this particular case but you can see the Middle East, we see barley imports going from 5.7 million tonnes to about 9.5 million tonnes that is tremendous growth that we see happening there. Asia Pacific would be the second largest example, you can see it going from about 3.5 million tonnes to about 4.8 million. Then we have growth in other areas as well. The declines are in Europe and the FSU, which we mentioned before, and Africa. If you look at the share by region, the Middle East effectively begins to account for better than one third of world barley imports and we think will be edging toward one half of world barley imports ten years down the road. Asia Pacific increases from 22 percent of trade to about 24 percent the FSU shows a decline that I have talked about, and Latin America holds steady at 4 percent.

Among the major barley exporters the European Union is the major barley exporter now has been for several years, they produce about one third of the worlds barley about 50 million tonnes they use about 40 at home and export or carry over the balance. We have got them pegged for about 8 million tonnes of exports ten years down the road. That is up about three million tonnes but they have been there before, they have actually had depressed barley exports in the last few years. Australia would be the second largest exporter with 3.5 million tonnes and we ourselves are exporting 3 million tonnes in the base period, we are actually exporting 4 million tonnes right now, we saw it growing to about 3.2 million tonnes ten years down the road and that was split roughly evenly between malting barley exports and feed barley exports. One of the things we didn’t factor in here, and I’ve mentioned it before, is the fact that ConAgra is building this bioclean plant north of Edmonton and it will demand quite a bit of barley, I think the figure that I have heard is around 700,000 tonnes. That would probably come out of the feed barley portion of this, which as I said was somewhere around 1.5 million tonnes and we would have smaller feed barley exports but it will depend obviously on the demand for feed barley in the world and the demand for feed barley in the world that is intrinsically for feed barley, unwilling to substitute form. For instance the Saudi demand is intrinsically for feed barley and if the Saudi’s want feed barley and they are willing to pay for it they will be bidding the supplies away from users elsewhere in the world. The US exports 1.3 million tonnes in the base period we saw them going to about 1.5 million and then we have some others as well. In Canada and the US the reality is that barley has to compete for acreage with other crops that farmers could sow that would be lucrative as well. Then there is a question as well about domestic value added, in Canada anyway, and livestock demand for feed barley.
These others by the way, other exporters, again number among them two former Soviet Republics, Russia and the Ukraine as well as Turkey and Syria.

In terms of market share than we see the EU going from about one third of the world trade to 40 percent, Australia would actually decline, we would decline, the US would decline. Where you get some gain is with these others as they become more important exporters. I should mention in passing that Russia and the Ukraine are already exporting feed barley to the world market and we already have to compete with them. Particularly in Saudi Arabia and into some other Middle East destinations. I just want to say a word about malting barley, because it is obviously different from feed barley, it has its own market, this just gives an idea of who the major barley importers are and who we think will be in 2007. China is already the worlds major malting barley importer at 1.2 million tonnes and in fact this base period understates where Chinese imports are now they are more like 2 million tonnes already, and based on our forecasts we saw them growing to about 2.4 million tonnes of malting barley in ten years down the road. That is quite an increase from the base period but not as dramatic an increase from the levels we have seen in the last two years and expect to see this year. The US holds steady at about 500,000 tonnes we see growth in Columbia, Brazil, dramatic growth in Mexico. You can see how predominant China is as a malting barley importer. The major malting barley exporters Australia is the major malting barley exporter still and they exported 1.2 million tonnes in the base period. We see that growing to about 1.8 million tonnes in the forecast period that’s entirely achievable for them, it is not going to be difficult for them to achieve a level like that. We ourselves have exported roughly 1 million tonnes in the base period but we have been above it recently and it is entirely achievable for us to be exporting about 1.6 million tonnes of malting barley both in six row and two row primarily two row, six row going to the US. The EU we saw virtually doubling in there malting barley exports and again that is achievable for them, if the demand is there and the US we saw some modest growth as well. That is the scenario we see, the total malting barley volume trade in the base period was roughly 3 million tonnes, we saw it going in the forecast period to 4.6 million tonnes, malting barley trade has been growing dramatically in the last four or five years, so the base period tends to understate where we are right now so that 4.6 million tonnes is entirely achievable.

I said I would talk a little bit about how we saw the Western Canadian acreage breakout down the road. This explains why for instance we are not able to increase our wheat exports to the level that would allow us for instance to maintain our market share. In the base period we have about 30 million acres in wheat and about 10.5 million acres in barley. We know there is going to be more demand for barley for the feeding of livestock and as I mentioned for this BioClean plant. There is going to be demand as well for the malting barley market. So we saw the barley acreage growing from about 10.5 million acres to about 12.5 million acres. The forecast for acreage here for the other crops that are not marketed by the Wheat Board are Ag Canada forecasts except for Canola it is our forecast. We saw Canola going from about 11 million acres in the base period and we know that it is about 12.5 million acres in this year, to about 12.5 million acres in the forecast period. If anything, depending on what you
believe about the vegetable oil market that is a modest forecast for Canola acreage. I think people that are in the
oilseed business here in Western Canada would tell that it is arguable that Canola acreage could be up to around 14
to 15 million acres I have even heard people suggest 20 million acres. Summer fallow we took down fairly
dramatically, from 17 million acres down to 11.5 and so with only about 78 to 80 million acres to work with in
Western Canada we have to allocate this out and obviously what it going to determine the acreage that is actually
going to go into these crops is going to be the relative prices and returns. This is the way we saw it based on the
scenario that we saw in the international market. We pulled together the Ag Canada forecast and our forecast for
grains and oilseeds exports, put them together to get an idea about what aggregate tonnage we would be talking
about in term of grains and oilseeds exports. You can see that in the five year base period, leading up to this
forecast our grains and oilseeds exports in total, this does not include Eastern Canadian corn and soybeans, we really
are just looking at primarily Western Canadian crops here although there is Eastern Canadian wheat in here. You
can see our total grains and oilseeds project exports were 26.5 million tonnes, ten years down the road we think
based on our forecasts and the forecasts that we borrowed from Ag Canada, the implication is that we will be
exporting about 31.5 or 32 million tonnes of grains and oilseeds. That gives you an idea of what we think the
aggregate exports would be in our previous forecast we were a little bit higher because we were a little bit higher on
wheat, I think we were somewhere around 34 million tonnes ten years down the road but now we are back at about
31.6.

Now the interesting question for this conference, is what would be the likely directional movement for Canadian
grains and oilseeds exports based on that forecast? In the base period out of that 26.5 million tonnes of grains and
oilseeds exports about 16.5 went through the west coast, about 7.5 went through eastern system, by the eastern
system I mean Thunder Bay, Great Lakes, St. Lawrence and Churchill. And about 2.3 million tonnes went off the
Prairies direct southward. If we look at 1996 the latest complete year only about 15.5 million tonnes went through
the west coast, more went through the eastern system, but that was primarily because of the transportation system
problems we had, we had to switch a lot of cargos from the west coast to the east coast in order to be able to execute
so that is a little bit overstated for the 1996/97 crop year and 3.2 million tonnes went US direct. As we look at 2007,
we see about 4 million tonnes of potentially going US direct from the Prairies as we sit down and pencil out these
various commodities and percentage them, typically based on the latest five years. So about 4 million tonnes going
US direct. We figure about 20.5 million tonnes will go through the west coast and about 7 million tonnes will be
going through the eastern route. Obviously this is highly speculative it is highly, highly speculative to try to project
what export corridors, various grains and oilseeds are going to be going to and it isn’t even driven by the import
market because it will depend a lot on the relative freight market as well. There are some markets that it would seem
logically you would serve through the eastern system for instance the east coast of Brazil and yet we serve it to
some extent through the western system because the relative cost of ocean freight, relative to moving the grain to the
St. Laurence is more attractive. It is a question of really what are the relative costs of serving various markets and
that will determine what export corridors we are using for exporting not only Wheat Board marketed grain but also
the other grains and oilseeds that are marketed form Western Canada. With that I would like to finish and I am glad
to take any questions here that you may have and look forward to the discussion. Thank you.

Thank you very much Brian, we will have our reaction panel first and then we will still have lots of time for
questions. Brian mentioned that he and I don’t see eye to eye on some of the market outlooks and I guess I should
make the observation that when two children disagree that usually creates and argument and when two scientists
disagree that creates a controversy but when two market analysts disagree that creates a market, which is what we
are all looking for. So, Brian and I have had some good discussions and we agree on most things but on some
others we recognize that we don’t necessarily have a disagreement but we are attempting to back different scenarios
on some of the market outlooks.

For our reaction panel our first speaker is Lance Norman, if the executive director marketing for OMNITRAX
Incorporated. Lance was born in Moosejaw SK but received most of his education in Montreal, after high school he
entered McGill University, majoring in psychology and graduated in 1985 with a Bachelor of Arts degree. A few
years later he earned his bachelor of law from the University of Manitoba and shortly after opened his own law firm
as managing partner he was responsible for the firms administration, financial affairs and human resources as well
as practicing law. Outside his law practice he was active serving as executive director of the North Main
Development Corp and the North Main Business Improvement Zone. In those roles Lance was a vigorous and
effective lobbyist at all three levels of government. Most people are happy if they are an effective lobbyist at one
but Lance worked at three. Lance has been executive vice president of the Manitoba Chamber of Commerce since
February 1995 in addition to managing an office, developing corporate membership and maintaining close contact
with Chambers of Commerce across the province. Lance is a full time lobbyist that regularly meets with
government and provides input from a business perspective to a wide array of committees and boards. Please join
me in welcoming Lance Norman.

Thank you very much it is a pleasure to be here. I suppose you are all wondering what a person with my
background is doing selling railroad and sometimes I wonder too. By way of background I am the new marketing
person for OMNITRAX. OMNITRAX is a company based in Denver Colorado that owns several, about 14 or 15
short line railroads in the United States; Property management companies, warehousing distribution centers etc. It
also now owns 2 railroads in Canada, one is the Hudson Bay railroad, north of The Pas to Churchill and the Carlton
Trail railroad two subdivisions in Saskatchewan between Prince Albert and Saskatoon, and one port company called
Hudson Bay Port Company. In terms of the reaction or the implications to the Hudson Bay Port Company the
conservative projections of modest growth in demand in for the Hudson Bay Port Company is a staple product
mainly non durum wheat by those markets that we feel we are a competitive route. Obviously is consistent with the
Hudson Bay Port Companies long-term business plan provided that, that supply remains within the catchment area
of Hudson Bay Port. The implications are that the Port will be viable over the long term, and that simply put is the
implication to the Hudson Bay Port with respect to this latest projection from the Wheat Board. Perhaps what I
could do is clarify a little bit about what it is that business plan is for the Hudson Bay Port Company because all of
you I am sure have heard of a variety of different things about what that plan might be and what it might entail and
obviously the more sensational aspects of the Port of Churchill make there way into the media. Let me tell you, that
the business plan with respect to Hudson Bay Port Company and indeed with respect to all properties owned by
OMNITRAX are based on sound conservative planning. First of all what is the plan of the Hudson Bay Port
Corporation and that is to be the terminus of the short line railroad that is the shortest, fastest, cheapest
transportation route for certain products to certain customers for certain times of the year. The elimination of the
WGTA will highlight the actual costs of moving grain to the final customer and when the changes in rail and ocean
rates exporters constantly are looking to improve there margins as you all know and that fact and the fact that we are
moving away from subsidization of the grain transportation system as a whole. Those factors work in the favor of
Churchill pricing of Churchill. With that as the position that we would like to be in the market how are we going to
go about achieving that and while there are economies of scale, with respect to the OMNITRAX operations in
Canada many of those economies have been found and we have been able to reduce our costs. But more
importantly for a long term strategy there is basically a dual role for any short line and in particular for Hudson Bay
Railroad and Hudson Bay Port Company and that is to first of understand the needs and work with your class one
partner, your big customers, the grain companies and shipping companies to understand there needs as they move to
their core business they become less flexible and so there are equipment loading operational considerations that
have to be kept in mind with respect to those partners. This required investment and OMNITRAX is committed to
making those investments. The other way around to achieve that is through strategic alliances and we are certainly
keeping an open mind with respect to partners that we may have with any of those fore mentioned entities.
Secondly what else you need to do with a short line railroad is you need to remain flexible to your captive or smaller
customers on the route itself and flexible to those needs, those needs which have given the class one railroads all the
headaches. Really my analogy is that short line railroad really has to stand with one foot in each of two different
canoes and OMNITRAX obviously has done that to great success in the US and brings that expertise to bare and
obviously would not have invested money that they did if they were not assured that there was potential in that
route. What are some of the examples so far, tangible examples that OMNITRAX is making that move. We are
now able to unload the aluminum hopper cars on the rail, CN said that, that could not happen and could not do it
well it is being done, in fact it was done over the last season. As well Churchill is closer to most European countries
on average you might estimate that it is $10000 a day to lease a ship so of course any delays adds up to huge dollars.
Churchill offers those potential savings. We are currently looking at new sonar and radar technologies to help with
ice breaking and more information in terms of piloting ocean going vessels into the port there is deferred
maintenance both on the rail line and on the port that is currently being done. The integrated rail/port handling
facility will also assist in terms of customer service. There is also active talk of setting up a container system of
some fashion along the system. Those are some tangible examples of OMNITRAX commitment to making this
work, keeping in pace with the class ones and customers and at the same time maintaining flexibility at the smaller
end. That is definitely a challenge for us. Some things I suppose I should clear up, that OMNITRAX is not hanging their hat on. We are not counting on new mining opportunities in the north, although from all reports that is happening, there is record levels of mining exploration in Manitoba and Northwest Territories and obviously Hudson Bay Railroad and Hudson Bay Port will be beneficiaries of that if it comes to be. We are not counting on the Space Port, however there are negotiations right now under way with the Russians to import launch vehicles for the spaceport. We are not counting on concentrate coming from Boise Bay to be smelted at Thompson. We are not counting on any new global trade conditions that may make Churchill even more competitive but all of those things or anyone of those things if they come to fruition would obviously stand Churchill in good stead in terms of the port and the railroad. Having said that perhaps the Wheat Board may in future break out Churchill from the Eastern Route as it is called for greater clarity but we are satisfied that we will be able to compete over the short term and long term. Thanks very much.

The next speaker on your schedule is Paul Kennedy from the Port of Thunder Bay, unfortunately due to unforeseen circumstances Paul has been unable to make it here today. That also gave me some additional comfort in getting caught up in our schedule this afternoon. Paul sends his regrets and wishes us a good convention. The next on our reaction panel is my friend David Gardiner, who is the President of the Western Transportation Advisory Council known as WESTAC. David began his career in transportation in 1965 as a research analyst with Canadian Pacific, he has since held a number of prominent development and management positions in various sectors of the transportation industry in Canada, Bermuda, and England. From 1979 until 1994 his career centered on the marine industry in Canada, where he served as president of two shipping companies on the Great Lakes. Mr. Gardiner was appointed the president of the Western Transportation Advisory Council in 1994. With WESTAC he directs the activities of a professional staff managing a comprehensive program of publications, conferences and workshops designed to advance the interest of all participants in the transportation industry in Western Canada. Please join me in welcoming David Gardiner.

Thanks Doug

I guess this is a case of you pay your money and you get what you get because early iterations of the program that I saw contemplated a gateway response from the west coast presented either by the Port of Vancouver or the Port of Prince Rupert. Neither were able to do that and since both are card-carrying members of WESTAC, I felt it prudent to say yes when asked if I would come. So I will try to talk in terms of a west coast port reaction to the figures that Brian put out and he put out a couple of other points at the same time. Since I am from British Columbia and forestry industry is one that is very much on topic these days I have a small analogy from that industry. It is entitled Math Over the Years, teaching math in 1950, a logger sells a truck load of lumber for $100, his cost of production is four fifths of his price the math question is, is what is his profit? In 1997 the math question part a, reads as this, a company out sources all of its logger, they save on benefits and when the demand for their product is down the
logging workforce can easily be cut back. The average logger employed by the company earned $50000, had three
weeks vacation, received a nice retirement plan and medical insurance. The contracted logger charges $50 an hour.
The math question was out sourcing a good move? In forestry 1997 math question part b, a logging company
exports its wood finishing jobs to its Indonesian subsidiary and lays off all the corresponding half of its North
American workers, being the highest paid half. It clear cuts 95% of the forest leaving the rest for the spotted owl
and lays off all its remaining workers, it tells the workers that the spotted owl was responsible for the absence of
logable trees and lobbies congress for exemption from the endangered species act. Congress instead exempts the
company from all federal regulation. Math question, what is the return on investment of the lobbing costs? I guess
simply put it is not easy, it is not just a matter of how many tonnes are going to come out of the west coast and will
the terminals take care of it, it is not just a simple matter of what are the numbers and is the answer yes or no. The
ports on the west coast and I speak largely on behave of Vancouver, because Prince Rupert would say we are
unappreciated, unloved and are here and ready to help you. But essentially the ports on the west coast, are facing a
whole lot of issues. Not the least of which is getting a handle on the where the grain trade is going. They are
looking at the competing commodity interest, the changing demands on parts of all of the shippers, the competing
systems case in point being the loss of one million tonnes a year or more of potash permanently to the Port of
Portland. They are looking at institutional and practical barriers to efficiency both to within the port and in the
system leading to the port. Looking at funding priorities and availability and the times of restraint, trying to wrestle
with the need for speed and flexibility in responding to what the shippers want, concerns about the collection system
particularly in grain with the concentration and these super elevators and all of that means in terms of what the
system and the logistics would demand. Not the least the environmental concerns, it is not a popular business in the
lower mainland these days, operating a port as you can probably imagine. Based on Brian’s numbers, his forecast
was essentially saying west coast ports would be asked to handle in the neighbor of 20 million tonnes a year,
recognizing that, that is fraught with all kinds of difficulty in terms of getting any more specific than that. I would
make two comments about that, two or three years ago, about 1994/95, when the Board did this similar projection I
looked at that and at that time the projection for the west coast was 23.5 million tonnes and that was based on a
volume of 33.5 in total as opposed to the 31.6, I think that was on your slide. Essentially what we are now looking
at is a forecast for all grains and all oils through the west coast ports that is less than what is being forecast only two
years ago. That 20 million tonnes to put it into context is exactly the figure that was handled in the year 1992 by the
Ports of Vancouver and Prince Rupert combined.

Prince Rupert handling about 25% of that and 75% going through Vancouver. I guess the quick answer is in terms
of facilities at the Port, the ports capability they have handled this volume before and without much sweat one could
conclude that they could handle these volumes again. Let me just put it into a context for you. Vancouver Port has
recently embarked on its 2020 plan trying to look out that far and within that they are saying and there numbers
Brian are remarkably similar they probably may have got them from you, but they have based there planning around
a 20 million tonne a year average for bulk grains and oils through the port. In that context they are looking at he
coal industry being flat or maybe gaining in something like the nature of 2% a year, the forest products industry is not in decline, being flat for some time and other bulk commodities particularly the sulphurs and the potashes at least in the short term being probably in oversupply and some concern about what those volumes will be. What they are then projecting is that there future in terms of growth as they see it is in the areas of containerized traffic which has a bearing from the agricultural sector, in cruising with the wild card being the value added agriculture and what transportation demands will that put on the port and what will the response have to be. When you hear Alberta talking in terms of a seven billion dollar value added industry in agriculture going to 20 billion in not too many years, as a handler and a port facility you begin to wonder what those implications will be. With the possible exception of the new grain facility at Roberts Bank, which I would suspect is not going to be driven by concerns of volume but might be driven by concerns of it being a new facility that will handle efficiently the new distribution mechanism and collection system back further, with the exception of that there are really no other major cargo handling facilities being projected on the lower main land. There is one project to fill in one more bit which will give a little more extension to an inter harbor container facility but that is it. You can see this in the Vancouver Port Corporations capital plan as landlord there are saying if you take the 1996/97 annual average for capital expenditures they are projecting that only there future capital expenditures on an annual basis will only run at about 30% of what they have experienced in 1996/97 and almost all of that is going for cruise facilities, which is a growing segment of the industry, for some improvements in the container facilities and the rest has all to do with poor access and that means access to the port from the land side. The shippers have told them that, that is probably the major issue in terms of the efficiency and the future effectiveness of the port. It is easy to conclude from a west coast perspective what is being projected here can be handled well. The real question would seem to be will it be well handled, at a recent Vancouver Port Corporation user conference the following issues were put to the Port by shippers who are not in the agricultural business but other users of the Port. I think it is instructive to understand what they are being told by them. The needs that these shippers define were improved rail and road access to the port number 1, reduced interswitching delays and bottlenecks on the rail system in and around the port and extending back into the collection area, increased flexibility in the days and hours worked offered by all the terminals, increased availability of inland assembly points and equipment particularly in the container business to actually fulfill the demand that was being foreseen, improved cross communication at all levels including frank exchanges on plans and problems. These were not from the grain industry but I think there may be some comparisons here that you might want to feel are appropriate. A call for less peripheral thinking and this had to do with maximizing the whole west coast system, combining the strengths in what you would call the natural advantages of Vancouver and Roberts Bank and the Fraser River and Prince Rupert, to which I know my friends in Prince Rupert would add amen to that. The other issue always and always was lowering the costs and reducing any down time or congestion or delays through the port. Now this is what the port system is responding to, and I think it would be incumbent upon the grain industry to understand that this where the money is being spent, this is where the issue is being identified and grain from the port perspective can either be part of the solution or the problem. If these initiatives that are talked about so many times, about getting the logistics and the supply chain in order and the
efficiencies and accountability in it then the port system will be in position to respond, they all ready are in terms of other commodity shippers. I am a regular user of the new commuter system out there called the West Coast Express which runs on the North shore of CP lines and I can tell you as a passenger the only time we are ever late, it is always a string of cars with this wheat sheaf on the side. What you have to understand is that it is important for the grain trade to get its act right but it is also important in the context of other pressures in the port not to become a problem for that area because you have to fit with what is going on. So I ask just the question is grain exempt for any of those pressures, I think the answer is no. Before I close I just want to enter one minefield, and I will speak just gingerly about the opportunity that is represented by this early grain review. From our point of view and I speak for WESTAC which has many transport interests and for the ports as well. It is an opportunity, our only feeling about it is, is that it should result and focus in on the future and not the past, it should result in a comprehensive and a realistic plan that will serve the industry well into the next century, it should involve all of the key stake holders, and its leadership has to be based on the principals of balance and fairness, respect, trust and accountability. I have a solution to offer because I know that there has been no eminent person that was supposed to be an eminent position but it hasn’t happened. I found the person, I think all we need to do is find the person that placed this classier add in the newspaper recently and I quote ‘Will oil your sewing machine, and adjust tension in your home, for only one dollar’, if you can find someone who will oil your machine and adjust the tension in your home for a reasonable price I would say go for it. Thank you

Thank you very much David, we have time for questions, either to Brian, David or Lance. Do we have any questions?

Q: Doug let me start off questions, since our representative from Thunder Bay couldn’t be here perhaps we could ask the panel to give some comments and perhaps Brian it would be fairest since you are the least quietest of the bunch up there they all represent other roots, to address this question to you first. There seems to be some changes coming down the pike, in terms of the Marine Act, possibility of the commercialization of the St. Lawrence Seaway, charges for ice breaking, it strikes me that a lot of those charges raise the cost of moving goods down the Great Lakes/St. Lawrence Seaway system, how does that affect those markets that you are talking about will those price differences actually start to shift products out of the other ports?

Brain: I’ll be honest Barry I am not a specialist in transportation economics but it is my understanding that we just evaluate the relative costs of using various export corridors and we try to within certain constraints that we face maximize whatever the lowest cost route is I think it is probably fair to say that there is a critical mass in tonnage that is required to go through the Great Lakes System in order for it to be a viable economic transportation system and for the infrastructure to be used and maintained and maintained and all the rest of this stuff. Those are things we would have to evaluate and have evaluated as the years have gone by, the boom years for eastern movement, Thunder Bay, Great Lakes, St. Lawrence were in the early 80s and we’ve gone through a decline and the
rationalization of various kind but we’ve had to make those choices as the years have gone by, what is the best export route.

David: Just to add to that with Paul not being here I don’t know if I am speaking his words but I think the commercialization of the Seaway is designed to make it as efficient as it can become, that is the premise that if there are costs still to be squeezed out of the system then through privatization and commercialization that will happen.

Like Lance was saying in terms of OMNITRAX, I don’t know of anyone on the Seaway who is counting on a return of former grain volumes or anything like that. I think the system has adjusted, the fleet that handles the grain is largely adjusted through the consolidations and rationalizations that have gone on. It is probably in position for some time to handle grain in the volumes that Brian is predicting and one naturally assumes that, that is more or less grain that is going to find its way through the east simply because of where it is going to end up. Not that it will bare a huge premium for that but, even in terms of the Seaway, there are getting close to having rail become competitive to getting grain right down to places like Quebec City, one needs to think in terms of eastern movement not only of the Seaway System above Montreal but the rail system and the lower river can comprise the eastern route as well.

Brian : I just want to add one thing, we did not break out Churchill in the eastern movement and that was a conscience decision on our part. Really for two reasons, one is that my wife is from Thunder Bay and I have to go home tonight, the other is that I may well be the person chosen to speak to the Hudson Bay Route Association next spring.

Q: For the Wheat Board, but I want to give a 30 second talk first, we are investing a lot of money in western Canada, about 80% of the problems some of you recognize are the other side of Calgary and they are in Vancouver and that is a lot of reason why are grain is not moving as fast as it should be. A lot of things that we are doing here in Western Canada we probably could have accomplished with the system we had yesterday. We can load a hundred unit car train out of a branch line in 24 hours if the car allocation and the contract system were working but they are not. We in the southwest were looking at a lot of our branch lines, we went down and talked to Columbia Grain and Burlington Northern and Montana Rail Link and they have access to both Portland and Seattle and I my question for the Wheat Board is, there terminal costs are probably half of what ours are, Columbia grain said that if they had a contract for 10, 20 or 30 million bushels of grain they may even build a facility just for Canadian grain, have you pursued any of those and if we do hit that 20 or 22 million tonne mark is that something you are looking at?

Brian: Well again I am not in the transportation logistics end of our business so I am not as familiar with it as some other Wheat Board staff would be that work with that. I know that we did a 55000 tonne feed barley cargo out of there a couple of years ago, I know there was some problems in getting it executed and we will simply do whatever we have to do in order to move grain so we don’t have any particular blinder on about moving through the US west coast or moving down through the Mississippi system if necessary. In fact you probably know that we have moved grain down through the Mississippi system in the 1996/97 crop year, so whatever works best. But again I am not in
that end of the business so I am not sure what ongoing discussions are going on between our transportation department and Canadian west coast interests and US west coast interests.

Q continues: If I could, we have talked to the unions on the west coast and have gone through the whole system we talked to the Port of Vancouver, I think everybody wants to do business in Canada but they are tying our hands and costing us a lot of money in Western Canada and I think we have to look at all our options to put the dollars back in the pockets of western Canadians.

Brian: I think part of the Wheat Boards thinking in sending that cargo through there a couple years ago was to send a wake up call to the Canadian side of the western system although as you said we would prefer to business in Canada and the facilities are there. As David said, they can handle the volumes that they have handled four/five years ago and we can expect them to handle that in the future.

David: Any other questions?

I would like to thank Brian White, Lance Norman, and Dave Gardiner and Patty Rosher for participating in this session. If you could join me in thanking them again please.

Our next speaker the Hon. Charles Mayor. Charlie Mayor grew up on a farm in Warden SK, he received a Bachelor of Science in Agriculture Degree from the University of Saskatchewan, with a major in Agricultural Economics. He owned and operated a mixed farm operation near Carberry, MB from 1965 - 1996. Was first elected to the House of Commons in 1979 and was re-elected in 1984, 1984, and 1988. During this time he held portfolios as Minister of State for the Canadian Wheat Board, Minister of State for Grains and Oilseeds, Minister of Western Economic Diversification and Minister of Agriculture and as I was getting my thoughts together for this I was trying to remember when Charlie and I first met, it would have been when he was Minister of State for Grains and Oilseeds and I was with the Livestock Feed Board of Canada. Right from day one we seem to have good discussions on market outlooks and so on and so forth. This is a gentleman I consider to be a friend of mine who is coming up to give us our closing remarks. He is presently the chairman of the board for the Manitoba Crop Insurance and is a member of the boards of directors of Canada Bread Company, the Frontier Centre for Public Policy and Agriwest (or Agribest???) Capital. Please join me in welcoming Charlie Mayor.
Closing Remarks

Charlie Mayer

What to say to wrap up reminds me of the story of the chap who married the widow with seven children everything that needed to be done had already been done and everything needed to be said had already been said. We are going through an area of change there is absolutely no question about that, change for some people is an opportunity and for other people it is a threat. Sitting here today we listened to all the acronyms - UPS, PSCSX, CP, CN, BNGPO, CEO, OWEC, GIS. This reminds me of the story of the young mother who named her first three children IF, NT, and ABC. When asked what does that stand for she replied the first one was innocent fun, the second was misplaced trust, and the third one was absolute bloody carelessness. You have to know the jargon to follow this type of a discussion.

There is no question that the kind of divergence of opinion and expert opinion that is in this room you are going to have different points of view on how to proceed. It is interesting to see who is here. I counted twenty-four SaskPool people, and only four from the Wheat Board. Brian you are surrounded. I don’t know whether that means we are going to have a little fun here, whether SaskPool is here and they know something that they are going to get into the transportation business and the Wheat Board is going to get out of it, I know that would suit Paul Earl, but, if that ever happens Buy SaskPool shares as they are trading at about $20. And are likely to go to $50. A share, and that is not a plug for SaskPool against the other grain companies, but the point is that there is a lot of interest, and a lot of interest from afar.

I think the major change that is happening and has been happening is the change in attitude. I think that is prevalent here today. I think it has come about because we have stopped, at least to some degree, producing a product and then deciding to go out and find a market for it. This has worked fairly well for us for a good number of years when we only produce two or three classes of product, wheat, oats and barley. We didn’t use to have a separate pool for Durham, but someone made the point this morning that we have something like sixty different classifications for board grains, I think it was 37 for hard red, 14 for Durham and 12 for barley. That is an enormous amount of differentiation to keep through the system, and it is very difficult to see how that type of demand on the system can happen without a lot of change, which means all kinds of identity preserved.

You have, I think, it should be obvious, at least it seems to me, that the prairies are no longer a homogeneous area to produce product. You have the western prairies, from the middle of Saskatchewan west, to the extent that they are going to ship grain is likely going to go off the west coast and to some extent south. This side of the prairies it is going to go through Thunder Bay and largely it is going to go south. I think I am right in the Brian White, I think
you second biggest customer this year, leaving out countries, is ConAgra, or getting very close. They are buying for their own mills across the line. So trade patterns are changing very dramatically.

We talk about building these big elevators and their being monuments to foolishness, well another thing has changed, I didn’t hear one request here today for governments to get involved, what I did hear was a plea or recognition of the fact that we need a system that provides for competition and it is easy to see how that should be the case again when you talk about the different classifications of grain that we have to keep separate. You want to be able to deliver to your customer on time, a product that they know is very uniform and they know where it came from. The gentleman from Linnette Geomatics talked about the global position system as a way of keeping track of product. We are going to be able to do this increasingly as the technology gets more refined and as it gets a little more cost effective. You are going to be able to do that, it seems to me, with smaller and smaller cargo of grain, which has implications for the way we market and the way that we, in fact, deal with out customers. This to me means continuing deregulation, and by that I don’t me we want to get rid of our standards and we don’t want to get rid of everything, but it means that we have to provide more opportunity within the system to be more flexible to address the customer’s needs. What is interesting to say again I didn’t hear anybody asking for government assistance. There is a considerable amount of investment going on in this business, an enormous amount of investment. When you think that CP is indicating they are going to spend seven hundred million dollars, one hundred million dollars of which is for information technology again tells us where the focus is going to be. It would have been interesting to have asked them how they are going to do this. What they plan to do, I suspect, is to do with tracking their cargo and to be able to keep track of where the cargo is going and how it is serves the customer.

We heard that through the short line system deregulation works. The gentleman just before noon said that he has found that by serving his customer and providing a reliable service he is able to make money. If we figure out what in fact the customer wants, provide that product to him, these people are staying in business to the extent that they are prospering and continuing to buy some of these short lines. Again to me this says that at the end of the day the market is going to prevail. Brian, I think you made the point this morning that we need some fluctuation in the market, we can’t have everything regulated. I think there is a point there, I’m not too sure I agree totally with what you said, but somebody made the point onetime that the only sure cure for high prices are high prices, and the only sure cure for low prices and low prices. Unless you have that opportunity and some flexibility within the market system, it is pretty difficult to get the right market signals to come back. It is interesting to do projections and I understand that you have to go through the exercise of planning two years out, five years out, ten years out, and the actual process of doing that is quite a disciplinary one on you own area of responsibility. Let me give you some numbers that tells me there is no longer uniformity across the prairies.
There are just about four millions hogs produced in Manitoba. Manitoba government wants to double hog production, to go to eight million hogs, they can do this by adding one major hog operation per municipality around the province. If they do this and spread it out you are going to be able to deal with the problems that come with hog operations. But four million hogs, and if you take a feed conversion of something a little over three to one and you do the arithmetic and eighteen bushel pile of barley will give you a hog to market and that includes the sow and weanlings. Now eighteen bushel of barley is worth $3. Or $4. Or for $50. Or $60. worth of barley you are going to get $170. Or $175. hog. This going to take a million and a half tones of additional barley in Manitoba. Southeastern Manitoba is feed deficient, southern Alberta is feed deficient. Alberta wants to do the same thing. David, you mentioned that Alberta has their sights set on seeing the value of their agriculture exports go from seven or eight billion dollars to twenty billion dollars is less than ten years. They are going to have to double their hog population if they are going to do that. You can easily see that if that happens there is an extra three million tones of barley. You wonder where all this grain is going to come from, but it will come if we have the right signals and the right incentives for farmers to produce.

We saw that in Europe, I am not old enough to remember, but I think it was in the 1960’s around the Kennedy round of the GAT there was discussion at that time the Europeans were to be held to 85% or they agreed to hold their self sufficiency to 85% of their needs. Now the Americans would not agree, I don’t think the Japanese wanted to see that, so they didn’t agree on that number. When the final settle and got agriculture into the GAT, which is now the WTO, they were at 130 to 135 % self sufficiency and they did it totally with some very high prices. So the price drove production. If in fact people are willing to pay, we can produce it in this part of the world as cheaply as anybody. We can produce it probably in many ways in a cleaner environment, we have some of the cleanest air and purest water, soil has had least fertilizer used on it that almost any other place in the world, but we need the price signal in order to do that and it is not very difficult to see an extra three or four million tones of barley going into hogs and we have said nothing about poultry, and as people in the Pacific rim switch away from rice and go to wheat and flour and go from some of those cereals into meat they are going to go to pork and they are going to go to poultry. We have an extremely good poultry industry. Again there is an opportunity for us to find out what the customer wants and produce to meet that need instead of going out producing number one Manitoba northern and saying this is the best wheat in the world and if you as the customer don’t want to buy it that’s your mistake because we know it’s the best. This has worked in the past and we have had a largely undifferentiated produce. I am not so sure it is going to work in the future the way it has in the past.

The numbers I keep in my head, the two most successful countries in the world were Germany and Japan after the Second World War had increased their exports. I think Germany is still the largest exporter on a percentage basis of product. Both of these countries have made a point of finding out what the market wants and producing for that market. Witness what the Japanese almost did to the North American car industry, they came here, found out what we wanted, smaller cars, less gas guzzlers, and they started to produce them and sell them. They changed the whole
North American auto industry because they looked at what the customer wanted and produced to fit that market. Barry mentioned at noon that we are completing the circle. I like to use the analogy a little different, I hope we get out of that circle. I hope we get away from producing a product and thinking because we produced it and we believe that it is the best in the world that somebody should buy it.

I hope we start, and we have, more and more visiting out customers, asking them what they want and being able to produce and supply it. And that means transportation, there is absolutely no question, transportation is key in this country because of how far we are from the export market and just look at what is going on. Our markets are now north/south and off the west coast. Nobody mentioned, I guess to some degree we did peripherally Thunder Bay, there is going to have to be some rationalization of Thunder Bay at the terminals. The lake fleet has largely done it, but you have to think there is going to have to be some changes there. So I guess the theme that I see coming out of this, Barry, and it has been an interesting day, is that first of all people recognize that there is change, there is no question. I think the attitude because of that has been one that we want to take advantage of that change as best we can by finding out what the customer wants by making some commitments, enormous commitments in transportation.

Fields on Wheels, an interesting name, I now chair the Crop Insurance Board here for Manitoba, we write about a billion dollars worth of insurance every year in this province. We are funded by the two levels of government and the producers. Now, when I grew up in Saskatchewan my dad’s crop insurance was to carry over an extra bin of wheat, one thousand to twelve hundred bushel of wheat, in case he had a poor crop he had enough seed for the next year. That was crop insurance. This has changed dramatically. When we hauled grain to an elevator if you had a two hundred and fifty or two hundred and seventy bushel truck you were a big shot, you hauled in a thousand or twelve hundred bushel bin. You now have super B’s that are hauling fifteen or sixteen hundred bushel of wheat and a couple thousand bushel of barley. There are combines that can fill a couple of bins within the hour. Things have changed enormously on the production side and we are in very good position to take advantage of some of those changes that are out there in the markets and what we need to do is have a little different mind set in how we approach some of those markets.

One last point to leave with you. One of the speakers this afternoon said you are going to have to be big to have staying power. I don’t know if that is the case either. Some of the best run operations, some of the ones that are in the best financial position aren’t necessarily the big operators. When we were going through, I guess it is close to ten years ago now, we had some terrible prices in this country, $2 a bushel for wheat, not much more, people were really concerned about how farmers were going to stay in business. We met on a regular basis with agriculture bankers a couple of times a year and one of the things that stuck in my mind, in the spring of ’87 or ’88 we were trying to figure out how to put some cash out there to keep people going. We asked the bankers what are things like? One of the things that stuck with me said that sixty per cent of the farmers that are going to go to the field this
year are going to do so without an operating loan. This means they were self financing. They had enough reserves to do that. So don’t under estimate how well managed some of these smaller operations are. Big doesn’t necessarily mean you have staring stag power, look what happened to International Harvester. They no longer exist and the list goes on of people who have got into trouble whether you are big or small. I think it is going to depend on how well you can produce your produce or at what price you can produce it, how well you can serve you customers and how you can work with the industry as a package to make sure that you get your product to market with the proper IP attached to it in the proper time frame involved.

With this I will conclude and say thank you very much for inviting me Barry. I enjoyed being here and you always, on a day like this, get a chance to visit with people and get your mind around things and you sit and you listen, spend some time with yourself, and you learn all kinds of things. I think that is part of the benefit of being at meetings like this. Again, thank you very much for inviting me, I very much enjoyed being here.

Doug Much

We do have some time for questions if anyone is interested in posing some questions through the mikes otherwise we can buttonhole Charlie away from the mike. Any questions in public or are you going to do some private ones?

Well, I think that this is a sign as we get to the end of the day some people want to hit the door. Charlie, thank you very much. As always a most informative reflection on what we did today and I know it helped to reinforce some of the thinking in my mind of some of the things that I had absorbed, in particular, you first point about the change in attitude out here. I knew before I moved out west in ’95 that things were changing, but I was still surprised when I got out here how significant the attitude change has been and that we are in a very interesting dynamic industry and it has an excellent future. As you mentioned, we can produce it, we have the resources all we need is the market to give us the prices and we will do it. Thank you once again Charlie. Barry I presume you have some final comments.

Thank you very much Doug and thank you for serving as chairman this afternoon. Last year when we announced the first annual Fields on Wheels Conference I was asked by one of my colleagues whether this was like the first annual meeting of the ‘optimist club’. I have to admit that in the case of transportation agriculture I think it is. You have to be an optimist to stay in this industry and to survive and have the right outlook, and we are certainly glad that we have seen the second annual Fields on Wheels Conference and you are with us today. You will be receiving a copy of the proceedings, now for those of you who were here last year we are going to try and deliver a little earlier. As you may have received yours in the mail along with a notice of this conference. It was timed well in that respect but it was a little bit late we will admit. Fortunately, however, since the last conference we have been able to attract some first rate talent to the Transport Institute, some enthusiastic associates and I know, while I can’t
promise it for Christmas, and I’m not going to tell you it’s in the mail, although that would be excellent right now, you will I’m sure be receiving the copy of the proceedings before the snow disappears. That gives me a little bit of leeway.

I would like to thank all of the participants and the speakers. I think they have done a marvelous job today and certainly the time has gone pretty fast for me and I think for the audience as well. I also wish to thank you for joining us here. As you are aware one of the principal goals of this conference today was to raise some funds for the scholarship in the name of Vic Stechishin, an award that will be made to students in our Certificate in Logistics program and we have been successful. It is not a huge amount of money, but it is over $1,000. and we think that is a pretty good achievement and for that we do thank you for attending and for contributing on your behalf. With that I would like to thank you and officially close the second annual Fields on Wheels Conference.
1997 PARTICIPANTS

Ian Anderson  Centra Gas Manitoba Inc.
Gord Bacon  Pulse Canada
Greg Barnlund  Centra Gas Manitoba Inc
Rene Bessette  Toronto Dominion Bank
Dave Campbell  Manitoba Agriculture
Douglas Campbell  Campbell & Associates
Greg Catteeuw  Manitoba Highways
Gary Coleman  Big Freight Systems Inc
David Colledge  WESTAC
Ian Craven  Wrexham Corporation
Jack Craven  Manitoba Highways & Transportation
Bryan Davidson  Legal Alfalfa Products Ltd.
Allan Dawson  Manitoba Co-Operators
John DePape  Sparks Companies, Inc.
Greg Downie  Oakona Farms
Charray Dutka  Canadian Wheat Board
Reg Dyck  Keystone Agricultural Producers
Ron Eley  Saskatchewan Agriculture & Food
Dean J. Elliot  University of Manitoba Agricultural & Food Sciences
Glenn Faurschou  Faurshcou Farms
Catherine Fitzpatrick  Canadian Pacific Railway
Gordon Flaten  Natural Resources
Eric Fridfinnson  Manitoba Pool Elevators
Woody Galloway  CanAmera Foods
George Gamby  Westeel, A Division of Jenisys Engineered Products
Andy Gemmell  Canadian Transportation Agency
Ron Gleim  Saskatchewan Association of Rural Municipalities
Grant Hamilton  Manitoba Liquor Control Commission
Verna Hiebert  Manitoba Pool Elevators
Dr. Robert Hill
Geoffrey Horner
Robert Hyde
Charlene Kibbins
Michel Laforge
Doug May
Lorne Martin
Kevin Masse
Chris Mazlarski
Leeann Minogue
Lyle Minogue
Robert Morrissy
H. Clare Moster
Donald Norquay
David Nyznyk
Graham Parsons
Patty Parsons
Henry Penner
Ute Rehill
David Robinson
Lew Rogers
Patty Rosher
Taki Sarantakis
Nicole Small
Peter Stechishin
Gale Stechishin
Sandra Steckler
Robert Stewart
Hlezi Su
Howie Tischler
Ken Tjaden

Transport Canada
Scott Wolfe Management Inc.
MB Agricultural Credit Corporation
Canadian National Railway
PAMI
Manitoba Agriculture
Price Waterhouse
Transport Canada
Saskatchewan Association of Rural Municipalities
Pulse Canada
Manitoba Crop Insurance
Manitoba Motor Transport Board
Transportation Policy Planning & Development
Berdex Canada Ltd.
OWEC
Canadian Wheat Board
United Grain Growers
The Bank of Nova Scotia
Kuehne & Nagel International Ltd.
Transport Canada
Canadian Wheat Board
Transport Canada
Cancom Grain Company Inc.
Guest - Son of Vic Stechishin
Guest - Daughter-in-Law of Vic Stechishin
Canadian Pacific Railway
Manitoba Liquor Control Commission
Agriculture & Agrifood Canada
FCM Rail Ltd.
Pulse Growers
Albert Todosichuk  
MB Agricultural Credit Corporation
Karen Tucker  
Canadian Transportation Agency
Glen Tully  
Farm Credit Corporation
Larry Wah  
Transx Ltd.
Robert Ward  
Manitoba Agriculture
Wendy Ward  
Canadian Grain Commission
Gary Warkentin  
Agriculture & Agri-Food
Clifford Weber  
Alberta Agriculture, Food & Rural Development
Stephanie Wiebe  
Parish & Heimbecker Limited

SASKATCHEWAN WHEAT POOL

Blair Adams  
Roger Bortis
Derek Burden  
Dwight Demmans
Gordie Derenoski  
Robie Dodds
Ed Fesser  
Mel Flahr
Ed Frantik  
Scott Guy
Brad Iggum  
Blaine Kunkel
Len Kwiatkowski  
Neil Lajoie
Russ Lillejord  
Gordon Lees
Dwayne Nakrayko  
Ron Papove
Tim Rowan  
Ann Schueler
Brien Thiessen  
Dave Thomas
Darrel Veregen  
Sandi Wheatcroft

University of Manitoba Transport Institute

Michael Butt  
Jill Dutka
Richard Carlyle  
Darren Gorman
Todd Harrison  
Jake Kosior
Darren Prokop  
Scott Shurvell
Tamara Thompson  
Zhaokun Wang
Dr. Art Wilson
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<td>Rudy Schmeichel</td>
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<td>Kent Shoemaker</td>
<td>Red River Valley and Western Rail Road</td>
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<td>Dr. Paul Earl</td>
<td>Western Canadian Wheat Growers Association</td>
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<td>Lance Norman</td>
<td>OmniTRAX Inc</td>
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<td>Honourable Charlie Mayer</td>
<td>former Minister of Agriculture</td>
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<td>Dr. Daryl Kraft</td>
<td>University of Manitoba Agricultural Economics</td>
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<td>Bruce Graham</td>
<td>Linnet Geomatics</td>
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<td>Robert Tisdale</td>
<td>XCAN Grain Pool Ltd.</td>
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