



*Adapting* AGRICULTURE  
*to a Changing* PRAIRIE CLIMATE

March 4, 2010, *Holiday Inn Winnipeg South,*  
*1330 Pembina Highway, Winnipeg, Manitoba*



# Overview & Background



THE ADAPTING AGRICULTURE TO A CHANGING PRAIRIE CLIMATE FORUM WAS AN OUTCOME OF A BRAINSTORMING THINK TANK HOSTED BY DR. KEN PRESTON, DEAN OF AGRICULTURE AT NORTH DAKOTA STATE UNIVERSITY, FARGO, ND, ON SEPTEMBER 30, 2009.

Dr. Arlen Lehlm, Executive Director, North Central Regional Association (University of Wisconsin) Madison; John Oliver, Chairman, Flax Canada 2015; Dr. Ken Preston, Dean, Agriculture and Food, North Dakota State University, Fargo, ND; Dr. Joseph Dunn, former Deputy Secretary, USDA; Dr. Daryl Domitruk, Director of Agri-Food Innovation & Adaptation, Manitoba Agriculture, Food and Rural Initiatives; and Dr. John Kennelly, Dean, Faculty of Agricultural, Life & Environmental Sciences, University of Alberta formed a committee to bring together representatives from the three Canadian prairie provinces and seven U.S. states which share the same north central plains. The central objective was to discuss options and develop strategies to deal with climate change challenges facing the Great Plains.

The goal was to build a consensus that recognized the geography shared by the two countries, document what is at stake and raise awareness of future scenarios and problems that needed addressing.

From the September 30th session in 2009, a steering committee was formed to plan meetings in Winnipeg (March 4, 2010) and Kansas City (March 9, 2010). Subsequently the Deans of Agriculture of the three Canadian provinces and four U.S. states have formed a working group to develop actions/project proposals which will further provide data and possible solutions.

# Program

**8:30 – 8:45am**

Opening Comments

*John Oliver, Maple Leaf Bio-Concepts, Oshawa, ON*

**8:45 – 9:45am**

Reality of a Changing Climate

*Dr. David Skole, Department of Forestry, Michigan State University, East Lansing, MI*

Dr. Skole has more than 25 years experience with research on carbon and climate change. He was instrumental in constructing the first numerical global carbon model, and has been spearheading the integration of satellite based remote sensing into carbon accounting models. He was formally recognized for his climate change research as an official member of the United Nation's Intergovernmental Panel on Climate Change that shared the 2007 Nobel Peace Prize. He is now active in the emerging carbon financial markets and applications of his research to carbon sequestration and climate change mitigation projects in developing countries. He has been active in developing methods for carbon offsets under cap and trade carbon regulations. He is a member of the Chicago Climate Exchange (CCX), and serves as a member of its Offsets and Forestry Committees. He is also Chair of a Technical Advisory Committee of the CCX on small holder agriculture. He has more than 100 peer-reviewed publications on land use change and forestry issues related to carbon emissions and sequestration, including several that have been most influential in the field, ranking in the upper 1% in terms of overall influence on the science. He is the author of a very early book, *Beyond Oil: the Threat to Food and Fuel in the Coming Decades* that was published in 1986 and predicted the current oil and food crises.

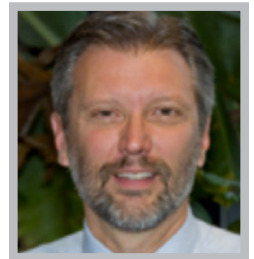


**9:45 – 10:45am**

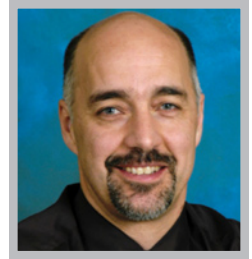
The Case for Agricultural Adaptation to Rapid Climate Change on the Northern Plains

*Dr. Danny Blair, Professor and Chair, Department of Geography, University of Winnipeg, Winnipeg, MB*

Danny Blair is Director of the University of Winnipeg's Climate Studies Centre; this centre is one of several nodes within the university's Global College and Dialogue Centre, established in 2004. He is an Associate Professor in the Department of Geography, and on July 1, 2004 was appointed as the PARC-MB Hydro Climate Change Research Professor. Dr. Blair's teaching portfolio includes a variety of courses related to climatology, climate change, meteorology, and natural hazards. His research program is largely concerned with climate variability and climate change affecting the Canadian Prairie Provinces and, in particular, the synoptic characteristics of variability and change. With a variety of collaborators, he is also examining the use of butterflies to monitor climate change in eastern Manitoba, the utility of precipitation isotopes to characterize the atmospheric circulation, the effect of climate variability and change on winter road operations in Manitoba, the use of tree-rings to reconstruct the hydroclimate of the Slave River Delta region, and methods of classifying atmospheric patterns. He received his B.Sc. and M.Sc. degrees from the University of Regina, and his Ph.D. from the Department of Geography at the University of Manitoba (1989). He joined the University of Winnipeg in 1987, and was Geography's Chair for the period of 1999-2004. He is an Adjunct Professor at the University of Manitoba and is a member of several graduate thesis committees. He is Co-Chair of the Climate Change Connection, Manitoba's climate change public education and outreach hub, and is a frequent contributor to local and national media reports on climate change and hazards.



*Dr. Paul Bullock, Professor, Department of Soil Science, Faculty of Agricultural and Food Sciences, University of Manitoba, Winnipeg, MB*



Dr. Bullock joined the department in May 2000. He received a Ph.D. at the Centre for Resources and Environmental Studies at the Australian National University. He obtained a B.S.A. and M.Sc. in Soil Science from the University of Saskatchewan. Dr. Bullock's past work experience includes: Director, Weather and Crop Surveillance. Canadian Wheat Board and Director of Operations, Noetix Research Inc., Winnipeg. His current research interests include: High resolution remote sensing data for fieldscale landscape unit determination; growing season weather effects on canola quality; development of indicators for agricultural drought; characterization of agroclimatic conditions in North America; development of a real-time soil moisture monitoring capacity in western Canada; meteorological benchmarking of crop varieties registered for use in western Canada; modeling soil temperatures with weather and environmental data; linking regional scale agrometeorological models with coarse resolution remote sensing data and quantification of weather impacts on wheat quality.

**10:45 – 11:05am**

Coffee break and networking

**11:05 – 11:55am**

What do we see? How does it affect us? What does the future look like from here? Response Panel:

*Barry Routledge, Producer, Lenore, MB*

Barry is currently the chair of the Manitoba Rural Adaptation Council, a non-profit funding agency focusing on adapting to new and emerging issues and positioning agriculture as a solution provider to many of society's problems. Barry has a background of working on national committees falling under the Farm Income Protection Act, trying to achieve policies focusing more on evolving and adapting and less on preserving the past. Barry has a deep understanding of crop insurance, serving on both provincial and national bodies spanning many years. Barry and his wife Kathy operate a mixed cattle and grain farm in south western Manitoba.



*Dr. Daryl Domitruk Ph.D., P.Ag, Director of Agri-Food Innovation & Adaptation, Manitoba Agriculture, Food and Rural Initiatives, Morden, MB*

Daryl is Director of Agri-Food Innovation and Adaptation with Manitoba Agriculture, Food and Rural Initiatives. His responsibilities include development and delivery of science and innovation policies and programs in agricultural production, functional food, bioproducts, renewable energy and other areas affecting the agri-food and rural sectors. Daryl holds B.S.A. and M.Sc. degrees from University of Manitoba and a Ph.D. in Crop Science from University of Saskatchewan. His experience includes research and extension in the crop protection industry, zero-tillage and winter cereals. Daryl is based in Morden, Manitoba



*Dr. John Kennelly, Dean, Faculty of Agricultural, Life & Environmental Sciences, University of Alberta, Edmonton, AB*

John J. Kennelly was recently re-appointed Dean of the Faculty of Agricultural, Life & Environmental Sciences (ALES) at the University of Alberta for a second five-year term ending in 2014. From 1997 to 2004, Dr. Kennelly served as Chair of the Department of Agricultural, Food and Nutritional Science (AFNS) at the University of Alberta. He obtained his PhD from the University of Alberta in 1980 and BSc (1st Class Honors) from University College Dublin in 1976. Dr Kennelly joined the University of Alberta as Assistant Professor in 1980 and was promoted to associate professor in 1983 and to full professor in 1987. Dr. Kennelly is a Fellow of the Canadian Society of Animal Sciences and the International College of Nutrition. He has been the recipient of the American Society of Animal Science Nutrition Award, as well as the Earl W. Crampton Award for Distinguished Service in Nutrition. He considers his most significant outreach accomplishment to be the establishment of the Western Canadian Dairy Conference in the early 1980s – today the conference attracts over 600 people annually to Red Deer and is recognized as having played a key role in positioning the dairy industry as a leader in the adoption of new technology over the past quarter century.



## 12:00 – 1:15pm

Lunch and Guest speaker

Welcome and greetings

*Honourable Stan Struthers, Minister of Manitoba Agriculture, Food and Rural Initiatives, Winnipeg, MB*

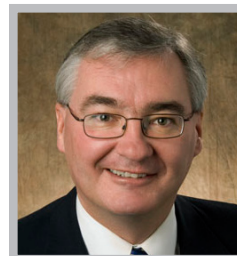
Climate Change and Bio-fuels – a Washington View

*Dr. Joseph Dunn, CEO, National Center for Agriculture and Food Policy,  
Past Deputy Undersecretary of Agriculture, Washington, D.C.*

Joseph A. Dunn, Ph.D. is the founder and President of OmniPharm Research International Inc, and Managing Partner of Therex LLC; both are pharmaceutical concerns located in Buffalo, New York. In addition, Dr. Dunn is the Chief Executive Officer of the National Center for Food and Agricultural Policy, a not for profit organization advising industry and government agencies on a variety of issues relating to food production and safety and the efficient use of agricultural products for renewable fuels. Dr. Dunn is also Adjunct Professor of Pharmaceutical Sciences at the State University of New York at Buffalo School of Pharmacy, and in April of 2010 Dr. Dunn will be Professor of Pharmaceutical Sciences and the Associate Dean for Research at D'Youville College's (Buffalo) School of Pharmacy.

From 2006 to 2009, Dr. Dunn was a political appointee to the United States Department of Agriculture, serving first as Special Advisor to the Under Secretary of the Research, Education and Economics Mission Area, and then as Deputy Under Secretary for that Mission Area. While at USDA, Dr. Dunn was also the Executive Director of the National Agricultural Research, Education, Economics and Extension Advisory Board (the Department's only Congressionally mandated advisory board).

Before founding OmniPharm and Therex, Dr. Dunn was a Principal Scientist at Sterling Winthrop Pharmaceuticals, a Senior Scientist at the Eastman Kodak Company, and a Senior Research Pharmacologist at the Colgate Palmolive Company. Dr. Dunn received his BS degree in Medicinal Chemistry and his PhD degree in Biochemical Pharmacology from the State University of New York at Buffalo in 1975 and 1981 respectively. In addition, Dr. Dunn was a Postdoctoral Fellow in Pharmacology at Harvard Medical School and a Staff Fellow at the National Institutes of Health in Bethesda, Maryland. Dr. Dunn has authored over thirty peer-reviewed scientific papers, holds two patents and, since 1994, has been the Principal Investigator for twenty-five pharmaceutical and agricultural product development grants awarded primarily by the NIH and USDA Small Business Innovative Research grant programs.

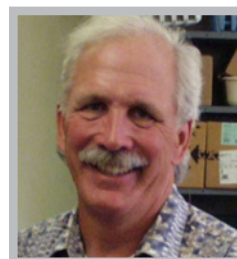


## 1:30 – 2:30pm

What can we do now to prepare for greater heat and drought?

*Dr. David Clay, Director, Drought Center, South Dakota State University, Brookings, SD*

Dr. David Clay is the Director South Dakota Drought Tolerance Center and Professor of Plant Science at South Dakota State University. He is currently a Senior Editor for the Agronomy Journal and Associate Editor for the Journal of Plant Nutrition. He was the Editor for a number of books that include: South Dakota Best Management Manual (SDSU), Site-Specific Farming Guidelines manual (PPI), GIS Applications in Agriculture (CRC Press), Soil Science: A Step-by-Step Field Analysis (SSAJ), and Mathematics and Science for Improved Agronomic Decisions (IPNI). Currently he is editing a new book to be published by CRC-Press, GIS applications in Agronomy: Nutrient Management for Improved Energy Efficiency. He has published over 120 refereed journal papers. Dr. Clay has received the SDSU Ag/Bio College Deans Award for Excellence (1994) and Teamwork (2004), SDSU Gamma Delta Research Award (1996), SDSU F.O. Butler Award for Excellence in Research (2004), SDSU Sigma Xi Presidents Award for Service (2006), USDA-ARS Collaboration Award (2006); and the PrecisionAG Award of Excellence in education and research (PrecisionAG Institute, 2009). He was elected as a Fellow of the American Society of Agronomy in 2007. Dr. Clay's research goal is to develop and test sustainable agricultural management systems that enhance environmental quality, maintain rural economies, and energy self sufficiency.



## 2:30 – 3:15pm

### Best Practices on the Prairies

*Dr. Guy Lafond, Agriculture and Agri-Food Canada, AAFC, Indian Head, SK*

Dr. Guy Lafond, a native of St Jean, Manitoba, received his BSc from the College de St. Boniface in 1974, his BSc (Hons) and MSc from the University of Manitoba in 1978 and 1980, respectively and his PhD from the University of Saskatchewan in 1984. From 1984 to 1985, he worked as a professional research associate at the Crop Development Centre in Saskatoon working on winter wheat and from 1985 to present, he has been employed as a Production Systems Agronomist with Agriculture and Agri-Food Canada at the Indian Head Research Farm. Dr. Lafond's research focuses on the agronomy of direct seeding, cropping systems, precision farming, cereal, oilseed and pulse agronomy, soil, fertilizer and land management. During the period 1997-2002, while maintaining his full research program, was provincial coordinator of the Spoke program and the Canada-Saskatchewan Agri-Food Innovation Fund. This involved the coordination of seven applied research sites across Saskatchewan.



## 3:15 – 3:30pm

### Coffee break and networking

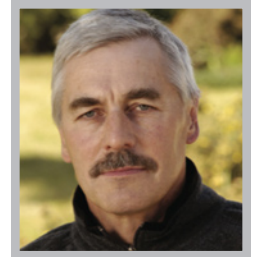
## 3:30 – 4:15pm

Farmer Panel: What do we see happening today? What are we doing today?  
What must we do in the future?

*Leo Meyer, Leo Meyer Grain Production, Woking, AB*

We proudly produce healthy quality grains & food products for an ever growing global market.

Leo Meyer Grain Production is a family managed and operated business with Leo and Kathy Meyer and their six children. They hire 2-3 seasonal employees and have a shareholders structure in place. Leo has a strong succession plan in place aimed towards his educated, and industry trained children. The main crops in production are Peas, Oats, CWRS Wheat, CWRW Wheat, Fall Rye/Triticale and Barley. Leo has several operation goals that he continues to uphold and work towards in his daily operations of his business including being a leader in quality agri-food business, implementing bio-safety protocols, instituting a management team to react to changes and proactively using risk management tools. Leo participates in the CO2 and NO2 protocol and grows switchgrass for cellulose ethanol production. Leo is President of the Alberta Oat, Rye and Triticale Association, board member of CTBI network, Vice Chair Alberta Barley Commission, Member of the governance body of Agri-food Discovery Place, member of Prairie Grain Development Committee, Council Member of Agriculture and Food Council, board member of Grain Growers of Canada and Vice Chair of Alberta Barley Commission.



*Owen McAuley, Double M, McAuley, MB*

Owen and his wife, Anna Mae, have been married for 40 years; have 3 grown children and 6 grandchildren. They farm 6000 acres with their daughter and son-in-law. They grow 4700 acres of grains and oilseeds, have a 150 cow-calf operation, and own a share of a feeder hog barn. In 1991, they were fortunate to become Manitoba Farm Family of the Year. Owen graduated from University of Manitoba – Diploma Agriculture in 1968, and has been a rural municipal councilor for 11 years. Owen was Chairman of Virden Vet Services for 10 years, safety net design and implantation of GRIP and NISA in 1989, Manitoba Mediation Board Vice Chairman for 11 years, Farmland Ownership Board Vice Chairman for 5 years, KAP vice Chairman in 1995, Western Agri Food Institute Chairperson in 2006, and Canadian Agri-Food Policy Institute Vice Chair in 2009. Owen has served on the report card on NAFTA committee, the Producer Payment Panel, Western Grain Marketing Panel, Sask Ethanol Development Committee from 2004-2006, and has been inducted into the Manitoba Agricultural Hall of Fame in 2006. Owen has also been awarded the Commemorative Medal by the Canadian Government in 1993 and has a Certificate of Merit from the University of Manitoba.



*David Rourke, Producer, President of Ag-Quest Inc., Minto, MB*

David Rourke is a farmer and entrepreneur from Minto, Manitoba. David is involved in many different agriculturally based companies. David holds many positions within these companies and organizations as follows: President of Ag-Quest Inc, a contract agricultural research company with four research stations across Western Canada. (Minto, Elm Creek, Saskatoon, Taber); General Manager of Rourke Farms Ltd., a 5,000 acre grain farm; General Manager of Hog Hill Farms (2002) Ltd., a straw based hog finishing site; General Manager of Minto Ethanol Ltd., an on-farm ethanol operation; President of Canamaize Seed Ltd., a company developing and distributing grazing corn; Partner of MRW Industries Ltd., a company producing a canola based lubricant and degumming agent; Director and Member of the Western Feed Grain Development Co-op Ltd., a farmer owned and directed feed wheat breeding program. David has a B. Sc.A. (Honors) from the University of Manitoba, Faculty of Agriculture with a Plant Science major. He also holds a M. Sc.A from the University of Manitoba.



*Edgar Hammermeister, Producer, Professional Agriologist and Crop Advisor, Alameda, SK*

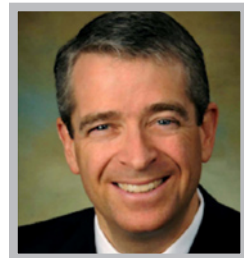
Born and raised in SE Saskatchewan, he is a graduate of the U of Sask. College of Agriculture. After working for four years in Ag environmental research, he returned home to Alameda to join the family farm. As is typical in small towns, Edgar has sat on a number of local community boards and has coached and refereed minor hockey. Edgar served 6 years as a Director with the Saskatchewan Soil Conservation Association, 2 years as its President. Edgar also represented Saskatchewan for 4 years to the national board, Soil Conservation Council of Canada. Edgar provides crop-planning services to area farmers working with Western Ag Labs. Crop plans focus on maximum economic yield based on crop choice and balanced crop nutrition. Edgar is married 19 years to Marilyn and they have two hockey playing sons, Logan age 14, and Riley, age 12.



**4:15 – 4:30pm** Summary and Wrap-up

*David McInnes, President and Chief Executive Officer, Canadian Agri-Food Policy Institute (CAPI), Ottawa, ON*

David McInnes is the President and Chief Executive Officer of the Ottawa-based Canadian Agri-Food Policy Institute (CAPI), an independent, not-for-profit organization that is a catalyst for advancing a national dialogue on emerging issues facing Canada's agriculture and agri-food sector. David joined CAPI as its Chief Operating Officer in February 2009 and became its CEO in July 2009. Prior to CAPI, he was Vice-President, International Relations, among other executive positions, at MDS Nordion, a major life sciences company. He has also worked for the Canadian Bankers Association in Toronto and Ottawa, the corporate office of the Bank of Nova Scotia in Toronto, and the Royal Commission on the Economic Union and Development Prospects for Canada. David has been a director of the Greater Ottawa Chamber of Commerce (Second Vice-Chair), the Ottawa Life Sciences Council (Vice-Chair), the Ottawa Centre for Research and Innovation (OCRI) and the U.S.-based Council of Radionuclides and Radiopharmaceuticals. As well, David was the Chair of OCRI's medical technology cluster, Ottawa MedTech, and under the auspices of the Canadian Chamber of Commerce was the Chair of its first Border Contingency Task Force, and Vice-Chair of its Ottawa Liaison Committee. Among published articles on consumer protection and self-regulation, David has published the book "Taking It to the Hill - the Complete Guide to Appearing Before Parliamentary Committees" (2nd edition, University of Ottawa Press, 2006). He has been an Associate with the University of Ottawa's Centre on Governance and is a graduate of the London School of Economics (Master of Science, Politics and Government) and Dalhousie University (B.A., Political Science).



# Steering Committee

**Dr. Mary Buhr**

Dean and Professor, College of Agriculture and Bioresources, University of Saskatchewan

**Dr. Daryl Domitruk Ph.D., P.Ag**

Director of Agri-Food Innovation & Adaptation, Manitoba Agriculture, Food and Rural Initiatives

**Dr. Yafan Huang**

Performance Plants

**Dr. John Kennelly**

Dean, Faculty of Agricultural, Life & Environmental Sciences University of Alberta

**David McInnes**

President and Chief Executive Officer, Canadian Agri-Food Policy Institute (CAPI)

**John Oliver**

Maple Leaf Bio-Concepts

**Barry Routledge**

Producer, Chair Manitoba Rural Adaptation Council

**Dr. Karin Wittenberg**

Acting Dean, Faculty of Agricultural and Food Sciences, University of Manitoba

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- The Canadian Agri-Food Policy Institute (CAPI)

