

## OPENING CEREMONY ADDRESS BY CHAIRMAN OF THE CONTINUING COMMITTEE

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Chairman and Vice-Chairman of the Board of Directors of the XVIII International Grassland Congress, Your Honour, Lieutenant Governor of the Province of Manitoba, Minister of Agriculture of the Province of Manitoba, Distinguished guests, members of the International Rangeland Congress, members of the International Grassland Congress, ladies and gentlemen. On behalf of the Continuing Committee, I am privileged to welcome you to the XVIII International Grassland Congress. What we will witness is the culmination of about six years of preparatory work by the Canadian Organising Committee and on your behalf I sincerely congratulate them for setting the basis for most interesting scientific and social programmes. There is the added opportunity for participants to visit parts of Canada and North America to enjoy a rich programme mix of scientific, social and cultural activities, travel through varied and beautiful landscapes and experience Canadian hospitality. Let all of us make the most of these opportunities.

Under the theme "Grasslands 2000" this end of millennium XVIII Congress will update the present state of knowledge and perhaps more importantly identify research priorities to lead into the next century. It takes place at a time of great challenge to grassland scientists. Relatively recent developments in the production of disease and/or chemical resistant transgenic plants and the possibility that a cancer cure may be sourced from the African bush willow are examples of how natural grassland resources can be exploited for human use and why it is so essential to maintain floristic biodiversity. Market driven requirements for wholesome human food products at low cost will continue to dominate. This in turn emphasises the need to understand the links between acceptability and intrinsic nutritional quality characteristics of food products and primary production methods as a basis for continued improvement.

Revision of the European Union Common Agricultural Policy, freeing up of world markets and marketing by the World Trade Organisation, World Earth Summit conventions on environment protection and a host of regional and local regulatory interventions increasingly set the context for research and development. In this scenario scientists and commercial exploiters are now more aware than ever before that the great global grassland ecosystems resources must be exploited with prudence and passed on without damage to future generations. They are also aware that, in addition to their traditional interests on how ruminant production from forage could be improved, the manner in which these resources are used also affects other characteristics such as global warming, water quantity and quality, recreational amenity values and Carbon sequestration in the broadest global ecological context. In this context we congratulate Canada on the selection of Montreal as the location of the secretariat of the UN Convention on Biological Diversity signed at the Earth Summit in Rio de Janeiro in 1992.

New research paradigms are necessary to meet the challenges of the future. Grasslands will continue to provide the main dietary source for ruminant livestock needs. Western European and North American grassland livestock farming based on capital, relatively low cost grain, mature research and price supports has caused regional food surpluses and led to consumer concerns about product quality and undesirable environmental effects. Efforts to transfer this model to other areas did not achieve the expected success. For example, in Africa it largely failed, partly through a poor appreciation of the different social milieu

and perhaps also to attempts to achieve too much too rapidly with inadequate research resources. Here the situation worsens, with the serious nutrition deficits affecting at least one third of the population of Sub-Saharan Africa combined with rapid population growth rate leading to increasing immediate need for food and consequent speeding up of grassland degradation in many instances.

Development in Africa has not been uniformly negative. It is following the worldwide trend of increased urbanisation accompanied by the development of higher return enterprises as dairying and horticulture in peri-urban areas. It is ironic that while this development should be accompanied by increased domestic forage and grain production, *per capita* production of crops as grain and casava decreased and grain imports increased at least seven fold over the past twenty five years. Imports of human food also continue to increase. After allowing for increases in poultry and other grain intensive livestock systems an increasing amount of grain is offered to ruminants. Product value to grain price ratio will always be one of the major determinants of grassland use worldwide with major consequences for overall land use. There is therefore a compelling need in Africa to increase domestic food production based on combining productive and protective exploitation of local natural resources. It is important that research adopts a holistic approach so as ensure that advances as, for example, improvements in individual ruminant genetic capacity, must not compromise ability to utilise forage. I refer particularly to Africa because of my personal experience but the same problems exist in many other parts of the world.

The issues arising in food production and hence in grassland science differ widely from region to region. We appear in many countries to be facing a crisis in grassland research and in some locations the terminology applied to it is scarcely civil. The reality is very different. In many respects research on grassland plants and animal production from grasslands has resulted in the most successful enterprise in Agriculture in the last fifty years. Members of the International Grassland Congress are entitled to be proud of this success. In fact, in the so-called developed countries we have been too successful and perhaps overextended the capacities of policy framers to control and manage increased output. Therein, I believe, lies much misunderstanding which could lead to a crisis in grasslands research in future. We must acknowledge that researchers, by virtue of the nature and discipline imposed on their work, have not always recognised sufficiently the consequences of their success within the farm gate or village community. Neither have they appreciated fully the nature and complexity of the economic and social systems with which agriculture must interface. This crisis does not extend to developing countries except through imports of surplus production and efforts to export products to highly competitive and protected markets. Their primary problem is that of producing more food for rapidly growing populations from fragile and overstretched ecosystems where social and economic forces intrude more forcibly on the smallholder.

These thoughts lead on to what I believe is the great challenge facing grassland scientists. Dealing with the complexity that surrounds utilisation of grasslands, interacting with political and socio-economic outside forces with a far broader range of scientific disciplines to provide scientifically sound and sociably acceptable results as a basis

for policy at local, regional and global levels is a formidable task. Decisions will be made with or without our input, the choice is ours. For example, the scientific programmes at this and previous Congresses address virtually all of the factors involved in understanding how an individual community might apply technology to make best use of its labour, grassland and livestock resources. There will always be a need to carry out so-called basic research and to develop new technologies in an ongoing dynamic manner. It could be argued, however, that at best we have shown in particular systems how to integrate the different components into a practical applicable package, which could predictably improve income and living standards. Results have often been disappointing due to the system being sub-optimal when global considerations are taken into account. We are challenged to take the wider perspective to integrate these broader issues into our systems. This challenge is much more daunting in developing countries. One might ask if there is a clear and reliable recommendation available to a community which would integrate agriculture, rangeland, the different uses of shrubs and trees and water resources with specific sustainable animal production targets where marketing infrastructure is poor and land tenure system is difficult. I submit that this is what is required particularly in developing countries. There is conflict between this requirement and the scientific protocol where specific biological hypotheses must be tested and understood but there comes a time when individual components must be tested as a whole and shaped to meet needs.

It appears that, worldwide, within unit efficiency, size and productivity will continue to increase due to their dominant effects on profitability which in turn is related to various economies of scale. This has serious consequences for the maintenance of rural population and social fabric and for urban evolution. Scientists and research managers must involve in these processes to identify problems, secure adequate research funding and also to market research findings to political and legislative agencies to provide a basis for improved development of grassland agriculture and those who engage in it. There is little doubt that progress will be closely related to the volume of support available.

Understanding complementary and competitive relationships in the biological, social and economic disciplines appears to be the central requirement for a successful research programme in the modern environment. We need to apply this insight to the challenges still remaining in the traditional heartland of our own work area. For example, with reference to my own research area, in grassland grazing use, research is generally directed to mono species ruminant uses when, under commercial conditions, mixtures of animal types are the norm. This research area requires much more attention and must be approached from the viewpoint that the increased number of variables involved, rather than being a problem, actually facilitates increased flexibility in utilising resources.

The relatively recent increased recognition of the research extension process as a subject of study is a welcome trend and requires increased support. Following many years of relatively successful extension I am convinced that there are two essential requirements for success viz. identification by the client with the recommendation and confidence in the purveyor. The former will generally only be achieved by research which represents an embodiment of integrated components in a whole system, preferably tested under different degrees of stress. Confidence in the purveyor stems from this research background and is assessed by the potential adopter mainly based on perceived risk. The latter is an extremely fragile commodity which can be dissipated by failure with serious consequences. The absence of such a strategy appears to be the cause an existing dilemma

between the need for the scientist to secure mature and reliable results as a basis for policy decisions and a growing tendency by policy makers and direct users to demand quick results. For research to be successful, it is necessary that it be marketed properly to the adopter. In agriculture, the perception of the problem may differ between the purveyor of research (researcher/advisor/extension officer etc.) and the targeted adopter (farmer/corporation etc.) and in many instances the researcher must explain what the problem is and why it is necessary to change. Also it must be recognised that biological efficiency may not always result in improved income and that many factors which fuel the inertia of the *status quo* may preclude the adoption of new technology even where the economic and other benefits are well established.

Grassland scientists can be proud of their achievements in the past and it is this success which will prime their determination to meet the challenges of the future with confidence. The advancements and pace at which they will occur will largely depend on the financial and other resources allocated. During this Congress we will address these issues once more and I believe with great success. Let us also enjoy the opportunity to do so.

It is appropriate here that I should congratulate Professor Ross Humphreys, former Chairman of the Continuing Committee, on his recently published book where he traces the history of the International Grassland Congress and its evolution since its first meeting in Germany in 1927. His book, 'The Evolving Science of Grassland Improvement,' was prepared specifically for this XVIII Congress and is recommended to all members.