

Importance of Grasslands – Historically and Today

XXV IGC Presidential Address

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We are here tonight at the XXV International Grassland Congress and the theme for the week is “Grasslands for Soil, Animal and Human Health.” As you will read in the recently compiled History of IGC, we have been meeting since 1927. This is the first time we have gathered in-person in 8 years. It is good to see all of you. Eight years, that’s the longest break except WWII. I want to thank our Kenyan colleagues for keeping IGC going during the Covid pandemic by hosting our virtual Congress in 2021, Joint with the International Rangeland Congress. I know that travel and visa restrictions and economics made this trip difficult for many of you and I commend you for making the effort to be here. For those colleagues that are only able to read my words, I look forward to meeting with you at the next Congress in Germany in 2027.

Introduction

Ecologically, grasslands are defined as areas where the vegetation is dominated by grasses and grass-like species. For most of us here, we think of grasslands as “grazing lands.” From the Terminology of Grazing Lands and Grazing Animals the vegetation in grasslands includes grasses, legumes and other forbs, and at times woody species. We have native grasslands, cultivated grassland, naturalized grasslands, and many other ecosystem types. They are all grasslands. Grasslands in all their forms cover over 1/3 of the land surface of the world.

Grasses and grasslands are important. As John Ingalls said in 1872. “Grass is the forgiveness of nature - her constant benediction. Forests decay, harvests perish, flowers vanish, but grass is immortal...Its tenacious fibers hold the earth in place and prevent its soluble components from washing to the wasting sea. It yields no fruit in earth or air and yet, should its harvest fail for a single year, famine would depopulate the world.”

Grasslands are important to the entire world, to forming agricultural soils, to domesticated livestock, to wildlife, to all grazing animals, to the human population, to the worldwide ecosystem. We are here today because we believe that grasslands are important. From the concluding chapter of the IGC History: “Grasslands have historically and justifiably been viewed as a solution to major challenges. They can contribute to a healthy, stable, and fertile soil, water catchment and quality, clean air, biodiversity of plants, animals, and other biota in both native and imposed grasslands, in addition to providing an economical feed source not directly consumable by humans. Through the animals that graze forages, food, clothing, power to transport heavy burdens, and a source of wealth are provided to humans (Burton, 1986). To many peoples of the world, grasslands provide home, heritage, livelihood and a ‘sense of place.’”

The positive role of the grazing animal in maintaining the health and sustainability of the ecosystem is well documented. Long-term row crop monocultures have advantages of specialization and economies of scale but are shown increasingly to negatively impact soil health and quality, wildlife, biodiversity, and other natural resources. Bert Christie (IGC President in Canada 1997) reminded us that without grasslands, the “bread-baskets of today can become the dust bowls of tomorrow” (Allen et al., 2021).

Why we are here

Let me take a few moments to describe why grassland scientists and practitioners from around the world have been gathering for almost 100 years. It all started when Professor Friedrich Falke, a well-known German scientist, sent a letter of invitation to 50 grassland scientists in mainland Europe. The purpose of the meeting was to (in his words) exchange knowledge and practical experience in grassland agriculture in central Europe and develop natural food sources for livestock and to increase their production. The subsequent gathering and tour for 16 of these scientists occurred in Leipzig, Germany in 1927. And they decided there was value in continuing to meet. And they did meet, and scientists and students and practitioners from more and more countries joined them year after year, and we continue to meet today.

The IGC was formed to provide a forum for the exchange of knowledge, ideas, and experience among those working with grasslands and their uses. As described by Dr. P. V. Cardon (President of the Congress in 1952) it is “an opportunity for free and open discussion of commonly recognized but unsolved problems; ... a forum where findings, ideas, and experiences (can) be exchanged,” and “where a mingling of minds” can “generate more potent activity.” From the beginning, the Congress has been about information-sharing and networking. Within the Congress setting, younger scientists have the opportunity to meet and learn from scientists who are already well-known for their accomplishments. New ideas and perspectives have been generated. Participants have been able to establish lifelong networks with peers and gain valuable experience presenting their work on a global stage (Allen et al., 2021).

Ray Brougham, President of the 17th Congress in NZ and Australia in 1993 said “We are here to review the grassland regions and resources of the world and to review progress made in their development and improvement, their management and productivity, their utilization, their degradation where this is occurring and their sustainability. We are also here to ensure that mechanisms of technology transfer and in particular information on wise use and practices associated with productivity increases are transferred to the practitioners, the farmers, the pastoralists, the managers, the policy makers, and the governments that are responsible for the world’s grassland resources” (Allen et al., 2021).

Vivien Allen stated in the IGC History that “While grassland research and content of the IGC have traditionally been concerned with use of grassland for livestock production, a much more multifunctional approach has been taken to grassland as we have moved into the 21st Century. This is reflected in an increased percentage of papers devoted to environment, socioeconomics and policy, land use systems, and information and technology transfer.”

Accomplishments of past International Grassland Congresses

The congress has been responsible for some significant progress in grassland research. One example relates to efforts to overcome tall fescue toxicity from the widely planted endophyte infected Kentucky 31 variety. New Zealand researcher Garry Latch met University of Georgia researcher Joe Bouton at the 1989 Grassland Congress in Nice, France. Bouton learned about Latch's safe endophytes and they developed a collaboration to insert these new endophytes into Bouton's Southeastern US adapted tall fescue varieties. This collaboration led to the entire novel endophyte tall fescue industry which has provided safe and persistent tall fescue varieties for

livestock producers across the US and around the world. I could relate numerous similar examples of collaborations that have developed as a result of attendance at IGC Congresses.

What are the Expected Accomplishments from IGC 2023

We expect new collaborations and linkages amongst you who are attending. A synergy of new ideas and further development of existing ideas. Just based on the themes and titles from some of the sessions, the research presented at the XXV IGC will lead to breakthroughs in accurate methods to measure the carbon capture potential of perennial grasslands. It will show new methods of recycling nutrients in grazing systems. It will show the critical value of livestock for sustainable cropping. It will emphasize to us that there are many forbs that aren't weedy species at all but valuable for forage quality and other benefits. It will show that secondary metabolites of forage plants show tremendous potential as natural nutraceuticals for livestock. It will show us how to more effectively train the next generation of grassland scientists and the tremendous opportunities of social media for grassland education.

The XXV IGC will emphasize to us that many grassland issues have social components which we have often ignored. In her keynote on Thursday, social scientist Dana Kelly will emphasize that food security is more than simply growing more food, which is what many of us are involved in. The distribution of food and supply chains are a social challenge, linked to governmental trade policies and institutional operations. Gender inequities are social challenges, stemming from cultural perceptions which are often reinforced or reflected in policy. Social, scientific, practical; these are just a few of the expected accomplishments of this Congress.

What the IGC Continuing Committee is Putting in Place for the Future

The IGC Continuing Committee is putting into place several things for the future. We are developing an Archive of IGC documents and materials for future generations with the assistance of Dr. Ruth Bryan, the Chief Archivist at the University of Kentucky.

As you know, our proceedings are a permanent record, a permanent legacy of research in grasslands. They will outlive us all. Now, not only are past Proceedings available through libraries around the world, but we are cataloging all the Proceedings papers from past Congresses into an easy to find format, that can be discovered as individual papers with any search engine. In the 3 years since the initiation of this project we have almost 170,000 downloads of IGC papers from 209 countries. Authors can go into the system and find the number of downloads for each of the papers they have authored. Currently we have all the proceedings papers back through the 19th Congress in Brazil in 2001. We are working towards all the Proceedings being on this site in coming years, even translated copies of the first two which are in German. Go to the IGC website under publications to find the Proceedings repository or simply google IGC Proceedings. I want to formally recognize Kyle Bachman-Johnson with the University of Kentucky library system and her predecessor Adrian Ho who started the project. Cara Montello is a current University of Kentucky student who has been working over the last year to upload papers.

The IGC Continuing Committee authorized the writing of a comprehensive history of IGC which was released in early 2021. The lead author is Vivien Allen, past IGC CC Chair, joined by Roger Wilkens (author of the IGC constitution); Garry Lacefield and myself (Ray Smith). There are many details from these early years of IGC that we would not know without the publication of this

history and the investigation of the authors and individuals like Juergen Pickert from Germany. The history includes details from every IGC Congress and other significant events in grassland research during the last 93 years. Take time to go through it while you're here. We have a few copies available for purchase or you can download the pdf or order a hard copy and have it shipped directly to you. The authors have just completed an Annex to the History which highlights the Joint Congress in Kenya. These are printed and available on the registration table and will soon be available on the IGC website.

The Continuing Committee has also worked with the International Rangeland Congress to hold two Joint Congresses in the last 15 years. Let's support the IRC by attending their next Congress in June 2025 in Adelaide, Australia. With our Proceedings, Archive, and IGC History projects we are building on our past as we prepare for the future.

What is the legacy of IGC? What is our personal legacy?

For those of us with families we are creating a legacy for our family; We are all creating a legacy within our chosen field of study; Whether we believe it or not, whether we feel adequate or not; We are creating a legacy in students, colleagues, farmers, ranchers, pastoralists, in all who come across our paths. Let us here today and here this week, commit to creating a positive, forward looking, truth seeking legacy. A legacy of personal and scientific integrity for grasslands. That is what our predecessors have done and that is what we must strive to do.

Let me conclude with another quote from the concluding chapter of the IGC History. "The founders of the International Grassland Congress initiated a Congress that survived and grew because it filled a critical need. Their vision and passion for a brighter and more secure future for humankind through solutions found in the grasslands is more relevant today than it was nearly 100 years ago. The International Grassland Congress remains vital to these issues and to the nurturing of the new generations of grasslanders who will address these critical challenges and opportunities into the future." Again, on behalf of the US IGC Organizing Committee, I welcome you to the XXV International Grassland Congress.