

The Global Plant Council Forges Ahead

On June 28 – 29 this year, the Global Plant Council (GPC) met in the beautiful city of Qingdao on the coast of eastern Shandong province in China. The GPC meeting was generously hosted by the Chinese Society of Plant Biology (CSPB) and expertly and smoothly organized by Professor Zuhua He, the Secretary General of CSPB, and his team of capable assistants. Fourteen of the 20 GPC member societies were represented at the meeting, either by serving presidents or by the society's chosen representative.

The main focus of the meeting was to identify and discuss global challenges that human society is facing and for which a concerted action is needed from plant scientists around the world. The goal was to develop focused topic areas and a deployment strategy that would allow GPC to move forward into active participation in the global debates that can be informed and impacted by the work and talents of the plant science community: world hunger, human health and well-being, climate change, energy and biomaterials, and sustainability and environmental protection. During the meeting, we decided that the best way forward was to generate two-page proposals to hold workshops on key issues related to global challenges and to seek funding for them. These workshops would bring together plant scientists, breeders and other specialists from all over the globe with the necessary expertise to generate a road map as to how plant science can address, mitigate, or offer solutions for the issues that GPC plans to address.

The Council identified nine key issues that GPC feels must be discussed and facilitated in the global plant community in greater depths. These nine key issues, in order of perceived priority for GPC action, are:

- 1. Digital Seed Bank** – to provide a stable perpetuation of crop genetic diversity for future generations, initially focusing on those crops that provide most of the calories for the world food supply, by creating a digital database of genome sequences, phenotypic information, expression data, proteome and metabolome assessments etc., that would be open to all breeders and scientists and would supplement physical long-term seed storage.
- 2. Local-level Diversity and Yield Stability** – to provide a means by which breeding efforts targeted to specific environmental conditions, utilizing local germplasm that is being characterized around the world, can be facilitated and enhanced in the public sector.
- 3. Increasing/Enriching Agricultural Diversity** - to promote the deployment of underutilized seed and root crops and cropping systems that might have nutritional and environmental benefits, as well as a return to the farmers that are growing them.
- 4. Biofortification** - to advocate for development new and existing crops that are more nutritious so that people receive the daily-required nutrients directly from unprocessed foods. Articulate what can be accomplished by conventional breeding and what might require alternative approaches and advocate for open sharing of data and information regarding biofortification efforts.
- 5. The Plant Environment Metagenome** – to facilitate our understanding of the “whole plant” with a view toward crop improvement and sustainability. The “whole plant” includes not only the plant itself, but the entire microecology of interacting microorganisms within and upon its surfaces, both within an agricultural cropping system and in a natural environment.

6. Development of Medicinal Plant-based Products – to advocate ethnobotanical and natural product research and development of useful plant compounds for human health, as well as to establish the means by which new products can be efficiently tested and brought to market.

7. Species Information for Sustainable Adaptation Capability to Climate Change - to explore/develop an approach toward facilitating natural and managed ecosystem adaptation (or ameliorating the effects resulting from) to changes in climate that are already taking place and to integrate existing plant interaction information into an ecosystem perspective for development of effective and predictive models.

8. Developing Perennial Rice/Wheat/Maize - to promote a vision where possible for the conversion of current mega-crops to perennial forms to stabilize land use and inputs and to promote sustainability along with yield maintenance.

9. Sharing Information and Resources – to develop a position statement for facilitating the global free exchange of information, phenotype and genotype data, and resources (including germplasm) that are in the public domain for approval by the GPC membership.

As you can imagine, each one of these topics and their perceived priority generated much spirited discussion within the group present at the meeting. GPC will now solicit input from plant scientists among all of the represented societies both during the development of the proposals and also as participants in the workshops once they are funded. Each member society will be asked to provide suggestions as to whom amongst their membership can provide expert and relevant input to these activities. GPC will also identify experts from other disciplines as needed for input and active participation to assure that GPC proposals and workshops will provide the best informed advice to the scientific community, breeders and agricultural stakeholders, policy makers and global organizations.

In addition to the development of these focused issue statements and action items, each member society reported on their own activities within the purview of the GPC mission. The list of activities is substantial, and the exchange opened up areas in which societies may chose to collaborate and maximise the impact of their individual programs. This is something that GPC will continue to promote and facilitate as a distinct value to our member societies.

GPC is well along in the process of registering as a not-for-profit organization, with our registration being implemented in Switzerland as a neutral base of operation. Our website, www.globalplantcouncil.org, is up and running and we will continue to improve on its content and its utility. Suggestions are always welcome and should be directed to the Executive Director. We will also continue to offer membership to plant science societies and other interested agricultural organizations around the world who have not yet signed up with GPC, and an active recruitment effort is underway.

GPC member the European Plant Science Organisation (EPSO) has kindly volunteered to host the next Annual Meeting of the Global Plant Council in Freiburg, Germany either before or after the joint EPSO/FESPB meeting that runs from July 29th to August 4th, 2012

I hope that this report on our activities will offer some insight into what the GPC is about, but should you require any further information please visit our website or feel free to contact me.

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