

G20 Germany 2017 6th Meeting of Agricultural Chief Scientists (MACS)

Communiqué

1. The 6th Meeting of the G20 Agricultural Chief Scientists (MACS)¹, chaired by Germany as the host country, represented by the Federal Ministry of Food and Agriculture (BMEL), was convened in Potsdam, Germany, on 14th and 15th November 2017.²
2. As MACS-G20 representatives, we recognize the Agenda 2030 as a global framework for sustainable development and the important role that agricultural science and technology plays in this endeavor. Equally, we recognize the contributions made to respond to climate change through the UN Framework Convention on Climate Change (UNFCCC).
3. We acknowledge the outcomes and commitments in the G20 Ministers' Declaration 2017 "*Towards food and water security: Fostering sustainability, advancing innovation*", the respective G20 Agriculture Ministers' Action Plan 2017 and the G20 Leaders' Declaration: "*Shaping an interconnected world*".
4. As MACS representatives, we take note of the G20 Agriculture Deputies' agreement on the Terms of Reference with respect to the stocktaking exercise that will start under the 2018 Argentinian G20 Presidency³.
5. Acknowledging the growing relevance of "open access" and "open data" within the global agri-food sector, tracing back to respective suggestion of the United States at 1st MACS in Mexico (2012) and taking note of the discussions on information and communications technology (ICT) in agriculture in further G20 formats, Germany hosted an expert workshop on Linked Open Data in Agriculture, which was conducted in Berlin on 27th and

¹ Participants included representatives from the following countries: Australia, Canada, China, European Union, France, Germany, Italy, Japan, Russian Federation, Turkey, United Kingdom and United States of America, guest countries (Spain, Norway, The Netherlands), international institutions of agricultural research, international organizations and international cooperation initiatives, among others (FAO, CABI, GFAR, GODAN, GEOGLAM, GRA, ILRI, Wheat Initiative, "4per1000" Initiative and OECD)

² Prior to the Meeting, participants were invited to an ancillary programme, including an opening seminar, facilitated by the German Agricultural Research Alliance (DAFA), on 12th November and an excursion to the bi-annual Agricultural Technology Fair, AGRITECHNICA, in Hanover, on 13th November 2017. The latter included exclusive thematic guided tours as well as an international agri-business forum titled "*Farming goes digital - the challenges of digital platforms in agriculture*".

³ Presentation with additional information on 14 November (morning session)

28th September 2017. Participants presented a wide range of applications and use cases of Linked Open Data from different countries, discussed strategic and political issues to be addressed and planned further activities.

6. Building on respective Turkish initiative and corresponding joint decision made at 4th MACS in Izmir (2015) and on subsequent launch of an online expert platform, Germany ensured the continuity of MACS activities related to the reduction of the Food Loss and Waste (FLW) as agreed upon in Xi'an (2016). For this purpose Germany hosted the workshop "*Reducing Food Losses & Waste: success stories, barriers, strategies for action*" from 20th to 22nd June 2017 in Berlin as kick-off for prospective voluntary cooperative action by interested G20 members and further experts. Participants raised issues such as common definitions and measurement frameworks, information sharing, awareness raising and capacity building, stimulation of research cooperation, accessibility to funding opportunities, and closer cooperation at implementation level.
7. The 6th MACS provided insights and contributions on emerging challenges and topics that may be addressed by future MACS initiatives with the overarching goal to support sustainable and resilient future food systems (e.g., increased application of genetic biodiversity in crops). A Keynote presentation provided a holistic perspective on the scope and dynamics of interconnected global challenges with respect to agriculture, food and nutrition. This was followed by presentations and discussions on key issues such as global plant pests, water (scarcity/variability), livestock production, soils (soil carbon sequestration). Digitalization⁴ was discussed as a cross-cutting issue⁴.
8. While recognizing the multiple initiatives at various levels to enhance food security and agricultural productivity in a sustainable and climate friendly manner with relevance to MACS, we took note of presentations in terms of decision guidance and capacity building in the application of knowledge and technology^{4,5}. We further acknowledge the efforts of the Global Research Alliance on Agricultural Greenhouse Gases (GRA), which was presented at the 6th MACS for the first time, on reducing agriculturally induced emissions and enhancing soil carbon sequestration in a sustainable manner and encourage joint research initiatives across international formats⁴.

⁴ Respective presentations and contact data will be available at the website www.macs-g20.org

⁵ Temperate Agriculture Network (TempAg) and the Group on Earth Observations Global Agricultural Monitoring initiative (GEOGLAM) in terms of decision guidance, Global Forum on Agricultural Research and Innovation (GFAR) and the Tropical Agriculture Platform (TAP) in terms of capacity building.

9. In its global context, we also recognize the opportunities for collaboration between national programs and the critical work of international organizations in collaborative global research.
10. Under the focal G20 agricultural theme of “agriculture and water” in 2017, Germany invited international experts to a workshop on *"Harnessing genetic resources for improving drought stress tolerance in crops"*. The results of this gathering were presented and discussed during the 6th MACS⁴.
11. As representatives of the MACS-G20, we agree to modify the MACS Terms of Reference (ToR) regarding “Global Research Collaboration Platforms” and substitute “Priorities” for “Platforms” in order to clarify the role of MACS in identifying “Global Research Collaboration Priorities” and address future activities based on four principles^{6,7}:
 - a) *“Positive consensus” principle*: a common thematic interest based on no objections by any attending MACS representatives;
 - b) *“Research & science-based action” principle*: concise policy statements that reflect opportunities for international research collaboration and leveraging domestically-focused agricultural research;
 - c) *“Voluntariness” principle*: participation in any action, resulting from MACS discussions and conclusions, is voluntary;
 - d) *“Facilitation, not institutionalization” principle*: MACS itself is not an operational structure to resource and execute joint activities. MACS members may support or facilitate activities but should avoid the creation of new structures.
12. We acknowledged and endeavor to continue collaborative work on the reduction of food losses and waste (FLW) and Linked Open Data (LOD), based on previous activities and results of the technical workshops conducted by Germany in 2017.
13. We acknowledge that the Working Group on Agricultural Technology Sharing (ATS) will further elaborate on the proposal and, based on the presentation and discussions at the 6th MACS, will present a thematically focused detailed proposal for discussion at the next MACS meeting in 2018 before MACS presents it to G20 Agricultural Ministers.
14. We intend to support the stocktaking exercise agreed by the G20 Agricultural Deputies by contributing progress reports on MACS related activities (e.g., through the MACS communiqués).

⁶ Modified MACS Terms of References are attached to this communiqué.

⁷ The GRCP working group has completed its task as requested in 5th MACS.

15. Finally, we acknowledge and appreciate the establishment of a MACS-G20 Website by Germany, which will assist the MACS Community in keeping track of relevant documents, events and contacts across G20 presidencies. The incoming G20 host country, Argentina, has agreed to maintain and update the MACS-G20 Website during its presidency in 2018.