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Summary of Responses to Request for Information: Designing a Global Digital Integration Hub to Enhance Collaboration Between Agricultural Research and Agricultural Producers

The AgMission™ Initiative – an initiative co-created by the Foundation for Food & Agriculture Research (FFAR) and the World Farmers' Organisation – is a research collaboration designed to accelerate farmer adoption of climate-smart agriculture (CSA) practices by forging closer connections between researchers and agricultural producers. Central to the approach of AgMission research is the understanding that farmers and ranchers must have a seat at the table and direct involvement in the development of CSA strategies and practices so that solutions co-developed with researchers are practical, actionable and scientifically robust.

AgMission is considering investing in development of a digital integration hub for direct communication between and among producers and researchers. The objective of the integration hub is two-fold: to facilitate transparency and accessibility of agricultural research to producers, and to provide a conduit for insights and feedback from producers to inform research priorities and design. The resulting research insights would therefore incorporate and reflect the knowledge and experience of practitioners.

To better understand the potential need for, and requirements of, a global digital integration hub for collaboration between scientists and producers, AgMission held an open, public Request for Information from October 12 through November 23,2022 that solicited input from agricultural producers, scientists, technology developers and other agricultural stakeholders. Fourteen responses were received with the majority from respondents at U.S. and international universities and small to medium sized agricultural technology companies. A subset of these respondents also identified as agricultural producers and provided responses from multiple perspectives.

Summary of Responses

Value and Use of an Integration Hub

An integration hub is viewed as a valuable tool from a researcher perspective. Respondents indicated a number of potential uses for such a digital connection space including allowing farmers to request research relate to specific management decisions on their farm; allowing

producers to see research proposals and provide feedback or directly contribute; and providing researchers an opportunity to understand what questions and topics are most relevant to producers, identify producers available and interested in participating in on-farm research, and establishing a direct connection for disseminating research findings. Researchers would also value opportunities to gather questions directly from producers as a guide to research topics of interest and involve them in the earliest stages of research. Fewer responses were received from a farmer perspective, however those received indicated that the greatest value of a direct connection space with researchers would be an ability to ask questions specific to their operations, and to be able to identify research projects of interest or relevance that they could contribute to through sharing experiences, ideas or data. In addition, a hub could have value as a potential exchange site for educational services and means for producers to connect with one another to share experiences and insights.

Data Sharing and Services

There were mixed responses on what types of data services such an integration hub should provide. Mindful that much of the on-farm data from agricultural producers is considered private and confidential, some respondents indicated that the best use of an integration hub would be to help develop connections and trusted relationships, but not to directly host or share data. Others indicated a desire for a hub that would include data sharing features and allow secure and private data transfer of machine readable data.

One challenge identified with data sharing between producers and researchers is that not all data produced in a farm operation can be used in all research projects. A group of respondents indicated a middle ground approach, where producers could share metadata via the hub – indicating what information they have – but then allowing participants to directly connect with one another for secure data transfer and sharing offsite would be the most practical approach.

An initial version of an integration hub could include features that allow producers to indicate willingness to share information and metadata of the information they have. Then individual researchers could identify collaboration opportunities and necessary formats. While this might reduce the amount of data shared, it will mean a collaborative effort and establish a direct connection. Establishing a secure data portal within the integration hub infrastructure could follow if needed and allow time for connections to grow and the community of users to provide input on data control, standards, access and privacy.

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Integration Hub Design

Respondents' views on the primary purpose and capabilities of a platform necessarily informed their feedback on potential integration hub design. Multiple respondents shared information on established data sharing resources and websites both general and related specifically to agriculture. These primarily are targeted to scientific audiences to share information between researchers and analysts but can provide some of the needed insight into a potential integration hub. Several respondents also pointed towards advances in data privacy control that have enabled greater data sharing in the health sciences as a potential model for agriculture. A number of digital resources were provided as examples of relevant tools.

Respondents emphasized the importance of including users in the earliest design stages of any new integration hub. Various similar digital connection spaces and related efforts already exist to forge greater connection between producers and researchers. The next step is further understanding these tools, their use and their utility to learn from prior efforts about what is most effective.

One important consideration is that such a connection space requires participation by users in the design and development. Use of Human Centered Design and similar participatory approaches was recommended, and to incorporate extensive user testing along with incentives to build an initial user base. Respondents also encouraged considering integration with other solutions to use existing platforms as the basis for any new digital connection space.

Next steps: Based on information received through this RFI, FFAR will continue to gather information on the potential user base and utility of the digital integration hub throughout 2023 with three specific activities:

- To gather a more compete picture of how producers might use or engage with the hub, we will incorporate questions related to the hub into an ongoing project that includes a series of consultations and interviews with farmers throughout 2023.
- We will conduct a series of individual meetings with existing technology solutions identified through the RFI to learn more about design and use.
- We will incorporate discussion of the digital integration hub into the FFAR-wide Research Strategy Refresh effort to determine potential relevance across all FFAR programs.

If you are interested in submitting additional comments or feedback, please contact AgMission@foundationfar.org. Subscribe to AgMission news here to stay up to date on program developments.