

Study shows benefits of chatgroups to human health can be replicated in plant health

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Benefits observed in human health chatgroups are also emerging in plant health, the scientists say. Credit: CABI

A CABI-led study has revealed that there is evidence of the benefits of chatgroups to human health, which can also be replicated in plant health.

The research analyzed the opportunities and pitfalls of using chat groups for plant [health systems](#) and examined the conditions for strengthening chatroom functions. It also considered the possibility of replicating reported successes in health care settings to plant health systems.

The scientists from CABI, who were joined by colleagues including from the Knowledge, Technology, and Innovation group at Wageningen University and the University of Lusaka, Zambia, focused their attention on chatgroup usage under the Plantwise program in Ghana, Kenya, Uganda, and Sri Lanka.

Benefits can be replicated in plant health

Dr. Dannie Romney, an author of the research—which was [published](#) in *CABI One Health* journal—and who is Senior Global Director, Development Communication and Extension, said, "Our findings show that there is evidence of the benefits of chatgroups to [human health](#) which can be replicated in plant health."

"Replication should, however, not be a 'copy and paste' approach. This is due to the general lack of evidence-based guidelines and lessons learned to move beyond the initial adoption success of communication applications."

"Also, in practice, Plantwise plant doctor chatgroups are generally much larger than groups in health care settings, and it remains to be seen whether increasing chatroom activity could benefit specific plant health objectives or whether it would lead to increased labor costs and/or diminish the participation of plant doctors."

The aim of the CABI-led [PlantwisePlus](#) program, which is building on the successes and learning of Plantwise and Action on Invasives programs, which have already helped millions of farmers in over 30

countries diagnose and treat pest threats and reduce crop losses by strengthening national plant health systems.

PlantwisePlus bridges the gap where, at the national and regional level, there is no consistent or coordinated mechanism for the detection of and response to pest outbreaks or for providing the technical support needed to identify plant health problems and deliver effective solutions.

It draws upon a range of existing CABI open-access products and projects. These include the CABI BioProtection Portal—a free tool to enhance the awareness and uptake of biocontrol and biopesticide products by growers and advisors—and the Plantwise Knowledge Bank and factsheet app.

Posting behavior was seen to vary among plant health professionals

The researchers found that, in general, posting behavior was seen to vary among health professionals, and similar variations in participation were also observed with plant clinic networks. Higher levels of active participation were reported among younger members (20-39 years old) and those with less than 10 years of professional experience.

Between 2017 and 2019, for example, the proportions of participants remaining relatively silent in the plant clinic chatgroups were 37-48% in Kenya, 50-52% in Ghana, and 35-58% in Uganda. In Sri Lanka, participation was more variable across years and groups—though it rarely fell below contributions from 30% of participants in any particular year—although this didn't mean that the remaining participants were not following exchanges.

In Ghana, during a series of plant doctor trainings in 2019, participation

increased, with only 22% of chatgroup participants being silent members. Furthermore, surveys conducted in Ghana show that differences in participation in plant clinic chatgroups in the country were attributable to the topics being discussed.

Hierarchy was also a factor with junior members more reluctant to post in groups that also included senior staff.

Chatgroups often revolved around several central figures

Co-author of the study, Anna Wood, who is also an Integrated Crop Management Advisor at CABI, said, "Another observation from all the plant clinic chatgroups is that interactions within chatgroups often revolved around several central figures; either diagnostic experts, experienced extension agents or chatgroup facilitators."

"We also find that smaller chat groups in Africa were noted to encourage greater participation, with plant doctors stating that small chat groups helped shy members to connect and reach out to others. In Uganda, Ghana, and Kenya, smaller plant clinic online groups that usually represent a particular geography (district, province, etc.) or training cohort operate alongside a national group."

Manju Thakur, co-author and Knowledge Bank Coordinator at CABI added that In Sri Lanka, there are only nine provincial groups and no national groups. All these groups are official, but observations were made that smaller groups were more homogenous in terms of members, less formal with more social exchanges, and focused on logistics.

Larger, national groups were more heterogenous

In contrast, the larger, national groups were more heterogeneous, allowing access to broader expertise, but more formal and focused on knowledge exchange, including addressing queries.

"This agrees with insights from health care settings with [Pahwa et al. 2018](#) showing that small groups encourage greater interaction, and [Zhang et al. 2013](#) who showed that large chat groups may be less efficient with active participation declining as the group size increases."

The researchers argue that, over time, in the plant health chatgroups, it was observed that although the number of requests for diagnostic support decreased over time, the quality of diagnostic support improved.

In addition, it was also reported that the proportion of cases where conflicting or incorrect diagnoses were given also declined. As in health care settings, the sharing of images across plant doctor chatgroups is critical in identifying and diagnosing pests and diseases, they said.

Increased cohesion among plant health network members

Dr. Romney said, "Emerging evidence from the four countries involved in the plant clinic network shows that the benefits observed in human health chatgroups are also emerging in plant health. The simplification and improvement of interactions across vertical chains of communication resulted in increased cohesion among plant health network members."

"Additionally, the sharing of uncommon symptoms in plant clinic chatgroups was also observed to contribute to early detection and rapid response systems by raising awareness of potential outbreaks and rapidly sharing information on the correct identification of pests and diseases

and on how to manage the problem."

"Most notably, chat groups improved the ease of communication in sharing information with plant doctors and in linking [plant health](#) experts in urban settings with those in rural, isolated areas—resulting in improved and timely diagnosis."

More information: Sarunas Jomantas et al, Looking at human healthcare to improve agricultural service delivery: The case of online chatgroups, *CABI One Health* (2024). [DOI: 10.1079/cabionehealth.2024.0008](#)

Provided by CABI

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