Questionnaire: requirements of agricultural advisors and farmers for an AI assistant

English translation of the Ukrainian survey instrument (ALE project, R&D No. 0126U000765). The Ukrainian version is the one administered to respondents.

Informed consent

Dear participant! This survey is conducted by researchers of Dmytro Motornyi Tavria State Agrotechnological University within research project No. 0126U000765. Its purpose is to find out what an AI assistant for agricultural advisory services should be like. The survey is anonymous: we do not collect names, contact details or farm names. Participation is voluntary, and you may stop at any moment. Aggregated results will be published in scientific journals, and anonymised responses will be deposited in an open data repository. Completing the questionnaire takes about 10-12 minutes.

☐ I have read the information above and agree to take part in the survey.

Block 1. Profile

1.1. Your role: ☐ advisor ☐ farmer / farm employee ☐ other

1.2. Age: ☐ under 35 ☐ 35-50 ☐ over 50

1.3. Experience in agriculture or advisory work: ☐ under 5 years ☐ 5-10 ☐ 11-20 ☐ over 20

1.4. Region (oblast): (selected from the list of regions of Ukraine)

1.5. Farm specialisation (farmers only): ☐ crop production ☐ livestock ☐ mixed ☐ other

1.6. Farm area (farmers only): ☐ under 50 ha ☐ 50-500 ha ☐ 501-2000 ha ☐ over 2000 ha

1.7. Are you a veteran or an internally displaced person? (optional) ☐ yes ☐ no ☐ prefer not to say

1.8. Rate your digital skills from 1 (very low) to 5 (very high).

Block 2. Current practices

2.1. How often do you use the following for work (daily / weekly / less often / never): smartphone; messengers; agronomic apps; AI assistants (ChatGPT, Gemini, etc.).

2.2. Where do you most often get professional information? (choose up to three): advisor; colleagues; suppliers of plant protection products and seeds; internet resources; social media; training courses; other.

Block 3. Priority of AI assistant functions

For each function choose: must have / should have / could have / not needed.

1. Identification of a pest or disease from a photo
2. Recommendation of registered plant protection products with application rates
3. Timing of field operations taking the weather into account
4. Economic assessment of decision options
5. Legal and regulatory advice
6. Learning materials on the topic of the query
7. Individual learning plan
8. Reminders about operations and deadlines
9. Voice input and spoken answers
10. Working without a stable internet connection
11. Referral to a human advisor
12. References to sources in every answer

Block 4. Andragogical conditions

Scale: 1 - strongly disagree, 2 - disagree, 3 - hard to say, 4 - agree, 5 - strongly agree. “The assistant is useful to me if it…”

- A1. takes into account my experience and the situation on my farm;
- A2. explains why it recommends this particular decision;
- A3. offers several options and leaves the choice to me;
- A4. helps me understand the problem rather than just giving a ready answer;
- A5. offers materials so that I can deepen my knowledge myself;
- A6. lets me return to previous advice and track what I have already learned;
- A7. answers at the moment when the problem arises;
- A8. explains the consequences of a decision for the harvest, the economics and the environment.

Block 5. Communication requirements

“It is important to me that the assistant’s answer…”

- K1. is written in plain language without bureaucratic jargon;
- K2. explains technical terms;
- K3. has a clear structure (what to do, why, how to check);
- K4. is short, with the option to get more detail;
- K5. contains references to sources;
- K6. honestly says when the assistant does not know the answer;
- K7. is available by voice and by photo, not only as text;
- K8. addresses me respectfully and appropriately.

Block 6. Trust and barriers

- T1. I trust advice from AI as much as advice from an advisor.
- T2. I check AI advice before acting on it.
- T3. I am worried that AI may recommend an unregistered or dangerous product.
- T4. I am willing to pay for a verified assistant.
- T5. I am concerned about my farm’s data being passed to third-party services.

- T6. I would recommend the assistant to colleagues if it had been verified by an advisory service.

Note for analysis: statements T3 and T5 are reverse-coded when the overall trust index is calculated.

Block 7. Open question

In your opinion, what matters most for an AI assistant to be useful in your work?

Thank you for taking part!