Currently, there are less than 10 studies of AI assurance in agriculture. Of these studies, few test their systems with agricultural experts; none test their systems with agricultural workers.

This is significant because as agriculture becomes more automated and technologically advanced, the end users who need to understand the “black box” of AI system are overwhelmingly not ML experts.

Having this “black box” makes it difficult for agricultural workers to trust AI systems and makes it difficult for policymakers to protect the interests of agricultural stakeholders.

This poster proposes several recommendations for more accessible XAI agricultural systems including utilizing participatory design, designing for different end users, and having programmers be transparent and upfront about data use and privacy.

As one solution to feeding a growing population with finite resources, some farmers, researchers, and Agricultural Technology Providers (ATPs) have turned to Precision Agriculture (PA).

PA is the practice of mapping out precise input applications to maximize the yield.

In order to implement the machine learning algorithms for PA on a larger, industrial scale, Agricultural Technology Providers (ATPs) collect input and output data from farmers to build prescription maps which farmers can program farm equipment to follow.

To create trusted PA systems, ATPs will need to rely on transparency.

Addressing the lack of transparency in PA systems will require developing explainable AI (XAI) systems.

The study of AI Assurance is a newer development for the agricultural field.

Overall, the studies were tested by the researchers themselves or unspecified experts.

However, in agriculture, we need to be cognizant that the end-users of these systems are not only the original researchers, but also the grower or agricultural worker.