

Pest ID

Grain Farmers of Ontario










Phone based apps are quickly becoming a useful tool in the field for easy identification of crop pests. The apps available have different categories of pest identification, covering different categories of pests, including plants, insects, diseases, and nutrient deficiencies. Depending on the

app there are different strategies for pest identification, some using image analysis, decision trees, Artificial Intelligence (AI), or machine learning. Below is a brief overview of the free-to-use pest identification apps and their capabilities available to farmers in Ontario.

Overall, no app or identification system is perfect, there are still learnings to be made within the app. However, each system allows for users to get a better idea of what they are finding in the field, with accuracy improving over time. Many allow for regional focus which also helps with identification. •

OVERVIEW OF PEST IDENTIFICATION APPS

	 PictureThis plant identifier	 Pl@ntNet	 Pest Manager	 iNaturalist	 Google Lens	 Ag PhD CROP NUTRIENT DEFICIENCIES	 Yara CheckIT
Insect ID			✓	✓	✓		
Plant ID	✓	✓	✓	✓	✓		
Disease ID			✓		✓		
Nutrient deficiency ID						✓	✓
AI/Machine learning	✓			✓	✓		
Decision tree based			✓				✓
Professional review		✓					
Image analysis	✓	✓		✓	✓		
Mapping		✓	✓	✓			
Free to use	✓	✓	✓	✓	✓	✓	✓
Affiliation	Glority Global Group Ltd.	Numerous	OMAFRA/Grain Farmers of Ontario	California Academy of Sciences/National Geographic	Google	Ag PhD	Yara
General Comments	Can often get user to the right family of plant, but not always the exact plant	Operates with and without human validation	Ontario specific	Limited AI image identification, based on data available	Allows access to a large database	Shows pictures and describes deficiencies, indicates what the particular nutrients do	

Visit or download these resources by visiting the links below:

PictureThis - <https://apps.apple.com/us/app/picturethis-plant-identifier/id1252497129>

Pl@ntNet - <https://identify.plantnet.org/>

Pest Manager - https://play.google.com/store/apps/details?id=com.agnition.pestmanager&hl=en_CA&gl=US

I-Naturalist - <https://www.inaturalist.org/>

Google Lens - <https://lens.google/>

Ag PhD Deficiencies - https://play.google.com/store/apps/details?id=com.agphd.deficiencies&hl=en_CA&gl=US&pli=1

CheckIT - <https://www.yaracanada.ca/crop-nutrition/tools-and-services/checkit/>