

P18: Crop health (diseases and pests detection)	
Maturity score	
Mean: 2.6	STD: 0.49
<u>Constraints and limitations</u>	
<ul style="list-style-type: none"> • Cloud presence • Challenges in fields with mixed land cover (multiple crops, bare soil, vegetation) • Depending on the crop/plant/disease, the accuracy can be very low, but sufficient for some use cases 	
<u>Relevant user needs</u>	
<p>UN30: Need for monitoring with accurate measurements of the growth and health of trees.</p> <p>UN37: Projection of risk to portfolio assets into the future.</p> <p>UN55: Detecting crop damage at the level of individual farms/fields.</p>	
<u>R&D gaps</u>	
<ul style="list-style-type: none"> • Lacking the ability to differentiate specific disease types due to limited spectral discrimination. • Temporal coverage of the data from existing sensors at a high enough spatial resolution. • Similar spectral characteristics between pest damage and other vegetation stress factors require additional in-situ data. • Limitations in predictive analytics • When it comes to vegetation diseases, the biggest limitation in setting up an EO service is the lack of field data to validate it. • Lack of matureness of EO needs from stakeholders. Not clear to them what can be demanded or expected. • Inertia in using traditionally established analysis products, which mostly require human supervision. Greater credibility to human reports than to automatic remote monitoring. 	
<u>Potential improvements drivers</u>	
<ul style="list-style-type: none"> • Increased efforts in downscaling current sensor data to provide the necessary temporal coverage. • Additional in-situ data to calculate/validate the product in each region where it is needed. • Capacity building: workshops, meetings, more information about what EO can provide. • Improvements in models for predictive analytics. • Hyperspectral sensors to differentiate between different types of diseases. 	
Utilisation level review	
Utilisation score	
Mean: 2.20	STD: 0.75
<u>No utilisation</u>	
<u>Low utilisation</u>	
<ul style="list-style-type: none"> • Unawareness of the existence of commercial EO products with better specifications • Lack of knowledge of executives and low-risk tolerance. 	

Medium utilisation

- Unawareness of the existence of the best available commercial EO product with better specifications

High utilisation

Critical gaps related to relevant user needs

Guideline gap

UN30: Need for monitoring with accurate measurement of the growth and health of trees.

UN37: Projection of risk to portfolio assets into the future.

Utilisation gap

UN55: Detecting crop damage at the level of individual farms/fields