



NEXTLAND

GROW YOUR GAINS

# VEGETATION INDICES

## Digital crop monitoring

**Monitor crop growth and health from space with simple plant descriptors. Within the Vegetation Indices service, NextLand offers:**

### NORMALIZED DIFFERENCE VEGETATION INDEX

The Normalized Difference Vegetation Index (NDVI) describes the general status of the crop and can be used as a relative metric to monitor the overall development of the crops, both **within a field**, or compared to other fields in the area.

### BIOPHYSICAL PARAMETERS (LAI, FAPAR, FCOVER)

Biophysical parameters describe **physical attributes of the crop or the field**, such as the percentage of the crop cover (fCover), the Leaf Area Index (LAI), or the fraction of sunlight that is absorbed by the vegetation for photosynthesis (fAPAR).

### CROPSAR TO ENSURE CLOUD-FREE OBSERVATIONS

As cloud cover has proven to be a major issue for timely crop monitoring, a cloud-filled product is also available for all of these products (except the LAI). Our AI module CropSAR ensures **cloud free observations at parcel level** on a daily basis.

*"Estimates of FCover are a key input to our potato yield model. CropSAR allows us to scale up to daily estimates with accurate data. The API was easily integrated."*

**Dr Simon Smart**  
NIAB CUF

## Key benefits

- ⊕ **Get uninterrupted time series of vegetation indices for your fields thanks to our CropSAR technology**
- ⊕ **Go beyond the traditional NDVI and use biophysical parameters such as fAPAR, LAI and fCover which are more easily to understand**
- ⊕ **Access objective and up-to-date information about your crops**
- ⊕ **Take specific actions where and when needed**



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## Key specifications

Key specifications	NDVI, fAPAR, fCOVER	LAI	CropSAR
Coverage	Global	Global	Global
Data availability	Jul 2015 - current	Jul 2015 - current	Jul 2015 - current
File format	GeoTIFF	GeoTIFF	JSON encoded datastructure
Local overpass time	10 AM - 11 AM	10 AM - 11 AM	10 AM - 11 AM
Pixel size	10m (NDVI) / 10m & 20m	10m & 20m	Polygon
Satellites used	Sentinel 2	Sentinel 2	Sentinel 1 / Sentinel 2
Sensing depth	TOC	TOC	TOC
Temporal resolution	5 days	5 days	Daily
Timeliness	1-2 days	1-2 days	1-2 days
Unit	-	-	m2/m2 (LAI)
Data delivery	API	API	API

## Collaborators

For anyone involved in crop monitoring!

- ⊕ Agricultural service providers
- ⊕ Farmers and their associations
- ⊕ Public authorities
- ⊕ Insurance companies

