

## TF Leaf Area and Leaf Chlorophyll

The service **Monitoring of TF Leaf Area and TF Leaf Chlorophyll** is an abonnement service that delivers the leaf area (in  $\text{m}^2/\text{m}^2$ ) and leaf chlorophyll (in  $\mu\text{g}/\text{cm}^2$  leaf area) derived from satellite data. These plant parameters are retrieved from satellite data by using a radiative transfer model developed by Vista. The parameters are delivered every 10 days. The best satellite scene acquired during the period of 10 days will be delivered.

The **TF Leaf Area** gives information about the current biomass development of the crops on the field. Therefore, it gives information about the growing conditions and crop density. This knowledge can be used to optimize plant protection measures and to monitor whether plants suffer from pests. The delivered product consists of the plant leaf area in  $\text{m}^2$  per  $\text{m}^2$  of soil surface for a specific moment in time (the selected satellite scene).

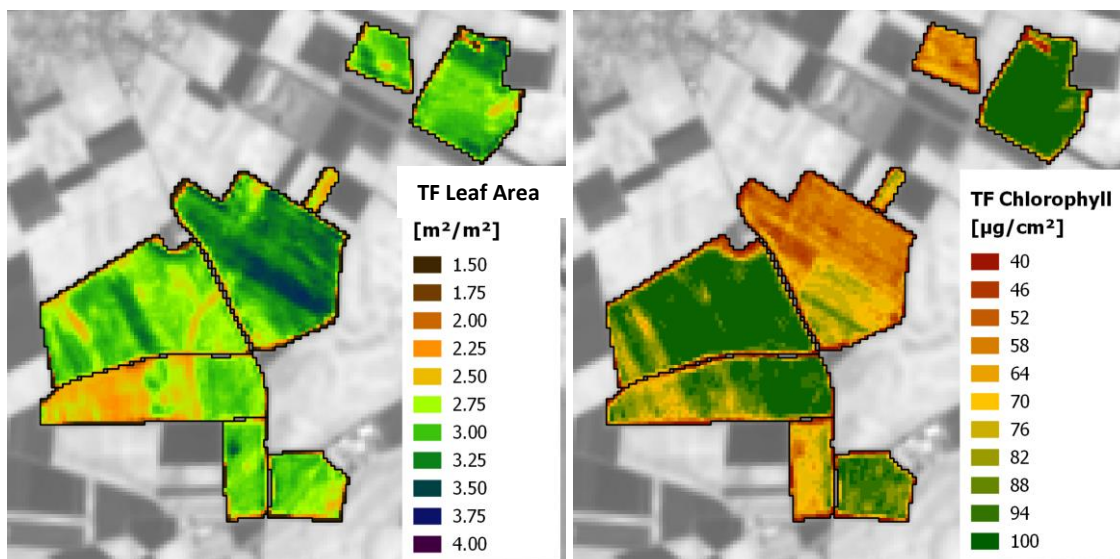
**TF Leaf Chlorophyll** delivers the chlorophyll content of the leaves in  $\mu\text{g}/\text{cm}^2$ . The chlorophyll content of the leaves correlates with the nitrogen supply status and therefore

gives information about the nutrition status of the crops. Areas with a lack of nitrogen that may result in yield reduction can be identified. This information can be used to create application maps for fertilizers. The TF leaf chlorophyll content is delivered in  $\mu\text{g}$  per  $\text{cm}^2$  leaf area and is therefore independent from the current leaf area of the plants.

The image shows **TF Leaf Area and TF Leaf Chlorophyll** of some fields of winter wheat in the middle of May, so shortly before the last application of N-fertilizer. Some effects of varying pre-crops and varying organic fertilization may be observed. Additionally variations in TF Leaf Area and TF Leaf Chlorophyll are visible. The parameters do not show the same patterns across the fields. Areas with high TF Leaf Area and simultaneously low TF Chlorophyll content suggest a low nitrogen nutrition status of the plants that can be corrected accordingly during the following fertilization.

### TF Leaf Area and Leaf Chlorophyll

- Shows the current leaf area in  $\text{m}^2/\text{m}^2$  in a spatial resolution of  $10*10\text{m}$ .
- Shows the current leaf chlorophyll content in  $\mu\text{g}/\text{cm}^2$  leaf area in a spatial resolution of  $10*10\text{m}$ .
- The product will be delivered regularly every 10 days during the ordered vegetation period, while the duration of the vegetation period is defined as 6 months. **TF Leaf Area** can be delivered during the entire duration of the ordered period. **TF Leaf Chlorophyll** will be delivered for every field that is covered with vegetation.
- The product can serve as a basic source of information for application maps for fertilizer and plant protection measures.
- For the further processing industry the product allows the continuous monitoring of contracted areas.



Currently the Monitoring of TF Leaf Area and TF Leaf Chlorophyll is available for fields with a minimum size of 1 ha for the crop types winter wheat, rapeseed, sugar beet and maize. The products can be delivered worldwide.

Product name	Description	Recommended retail price in €/ha (excl. VAT)	Unit	Output format
<b>Monitoring TF Leaf Area and TF Leaf Chlorophyll</b>	Maps of the TF Leaf Area and TF Leaf Chlorophyll of the crops	8 € excl. VAT* *Discounts are available for large orders..	TF Leaf Area: m <sup>2</sup> /m <sup>2</sup> TF Leaf Chlorophyll: µg/cm <sup>2</sup>	TF-XML, Point-Shape-Files, raster data

The delivery of the **Monitoring TF Leaf Area and TF Leaf Chlorophyll** includes:

- Digital **TF Leaf Area and TF Leaf Chlorophyll** every 10 days for a maximum duration of 6 months during the ordered vegetation period. We will choose the best satellite scene for you during every 10-day period. The amount of cloud cover is the criterium for the best scene.
- TF Leaf Chlorophyll will only be delivered for fields covered with vegetation
- Delivery in NEXT Farming<sup>OFFICE</sup> compatible format or as point- or polygon-shape file which can be read by most prevalent agricultural software packages which include GIS functionality.

Upon receipt of an order we require the boundaries of the ordered fields **as well as** of non-target areas within the field (e.g. hedges or groups of trees) and information about the sown crop type, preferably in TF-XML- format.

If you would like to place an offer or have additional questions about our product please contact us by using our email address [info@talkingfields.de](mailto:info@talkingfields.de) or our phone number +49 89 45 21 614 22.