Rita Hørfarter

CropSAT – vegetation index on behalf of the satellite Sentinel 2A data

The European Earth Observation Programme has in June 2015 launched a new satellite, Sentinel-2A. Based on Sentinel2A data it is possible to calculate a vegetation index for all 600.000 fields in Denmark (2,4 mill hectare). These data is used in the program CropSAT for variable nitrogen application. SEGES and the Ministry of Environment and Food, Denmark had bought the program CropSAT.

What is CropSAT.dk?

In the free web application CropSAT.dk you can prepare a nitrogen variable rate application map based on processed satellite data from Sentinel 2A (vegetation index). Additionally, you can make a nitrogen variable rate application file in the format shape. The nitrogen application file can be loaded in the tractor terminal that reads the card and distribute the fertilizer graduated across the field. You can also use the vegetation index in CropSAT to follow the growth in the field and / or between fields. There will be new vegetation index file every 7 days I 2016. Clouds may be a problem since Sentinel2A cannot see through them.

 Fig. 1. The green map shows the vegetation index (NDVI) for a field. Yellow = low biomass and green = high biomass. The farmer writes in kg nitrogen per hectare in the 5 levels. The blue map shows then the variable rate application map. Light blue=low amount of nitrogen and dark blue = high amount of nitrogen. The application file can be exported as a shape file. The tractor terminal can read the file and will spread the fertilizer according to the blue map.
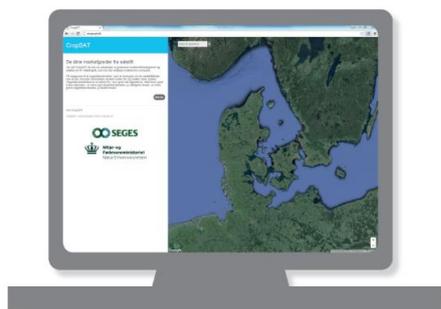
Bio

My name is Rita Hørfarter and I work with precision farming and GIS at SEGES (before the company name was The Advisory Center for Agriculture). SEGES is owned by the Danish farmers. At SEGES we build bridges between research and practical farming. At the same time, we aim to develop our products and services in partnership with our users. We ensure that the latest knowledge and technology is deployed by Danish farmers on their farms as quickly and efficiently as possible