Customer Reference

S2B, France
Société des Services aux Betteraviers

RapidEye
geo facts
turned into knowledge

S2B SOCIETE DE SERVICES DES BETTERAVIERS

VISIOPLAINE.com
La force de l'innovation

Overview

Country:	France
Market:	Agriculture
Industry:	Services
Size:	65 M Inhabitants
Website:	www.visioplaine.com

The Customer

S2B (Société des Services aux Betteraviers), a division of CGB (Confédération Générale des planteurs de Betterave), is a leader in the French agriculture service market for sugar beet farming. With their web-based platform VISIOPLAINE, S2B distributes precision agriculture services to farmers.

Challenge

S2B strives to increase the overall efficiency of agricultural production in France. In order to provide the best services to its customers, S2B ran two pilot projects with RapidEye on recommendations for nitrogen fertilization in canola and wheat fields.

Solution

RapidEye developed and provided biomass index maps for the determination of biomass for canola and chlorophyll maps for the determination of chlorophyll for wheat. With the help of these maps, S2B was able to make recommendations for nitrogen fertilization in canola and wheat fields to the farming community through its VISIOPLAINE platform.

Results

RapidEye delivered biomass maps to five cooperatives in winter 2008 and early spring 2009. In June 2009, RapidEye delivered chlorophyll maps to two cooperatives. This allows for more precise recommendations for crop fertilization and a cost-efficient solution for farmers.

Key Benefits

RapidEye's services help S2B to provide more precise recommendations for nitrogen fertilization to their customers. This high value service results in cost savings and better overall efficiency for S2B.

"Mainly due to its high revisit capabilities and its red edge spectral band, the RapidEye system permits the generation of up-to-date satellite images. The generated maps provide useful information on the chlorophyll content of plants, therefore helping our target group to better plan for fertilization."

Eric Renaud
Director S2B

Determination of Biomass for Canola and Chlorophyll Content for Wheat

Challenge

S2B (Société des Services aux Betteraviers) is an affiliate of CGB (Confédération Générale des planteurs de Betterave), and offers services to its customers in the French Agriculture market. S2B has developed the web-based platform VISIOPLAINE that distributes precision agriculture services to cooperatives and farmers. RapidEye services for agriculture are incorporated into the VISIOPLAINE platform. Through this platform, farmers can get seasonal information on the actual growing conditions of a given crop. This information is provided to the farmers in the form of maps, and is intended to help them to increase crop yields.

S2B has identified RapidEye as a geo-information provider in the industry capable of delivering remote sensing-based information in agricultural regions both at high spatial resolution and with high temporal frequency. RapidEye has the expertise in analyzing satellite-based data to support Precision Farming and agricultural management decisions. From 2008 to 2009, S2B and RapidEye successfully ran two pilot projects involving the recommendation of nitrogen fertilization at different intervals in France. The objective was to optimize nitrogen fertilization through remote sensing-based information for canola and wheat fields.

Solution

For both projects, the cooperatives and scientific institutes contributed information collected in the fields. RapidEye was responsible for the analysis from the remote sensing perspective, and delivered an intermediate product in the form of biomass and chlorophyll maps. S2B calculated the measurements of canola biomass in the fields and evaluated the prototype results jointly with RapidEye. Nitrogen fertilization maps were integrated into the VISIOPLAINE platform and could be downloaded for usage by farmers. From the farmers perspective, recommendations for nitrogen fertilization are most helpful in the springtime to optimize seasonal planning and crop yield.

Optimization of Nitrogen Fertilization through Biomass Determination for Canola

From early winter 2008 to early spring 2009, RapidEye developed a pilot service for S2B's VISIOPLAINE platform by measuring biomass changes on canola fields in northern France. RapidEye delivered biomass maps at two different periods of time. These maps helped to estimate the biomass changes before winter and the period after wintertime, in spring 2009.

Optimization of Nitrogen Fertilization through Determination of Chlorophyll Content for Wheat

In June 2009, RapidEye delivered a pilot service for S2B's VISIOPLAINE platform for cooperatives by measuring chlorophyll content on wheat fields. RapidEye delivered chlorophyll maps for two different time periods. RapidEye's competitive advantage is its red edge channel. The RapidEye satellite system is the first commercial system to offer the red edge spectral band, which provides specific information about the chlorophyll content of plants. Conclusions about the vitality of the vegetation in an observed area can be made with this information.

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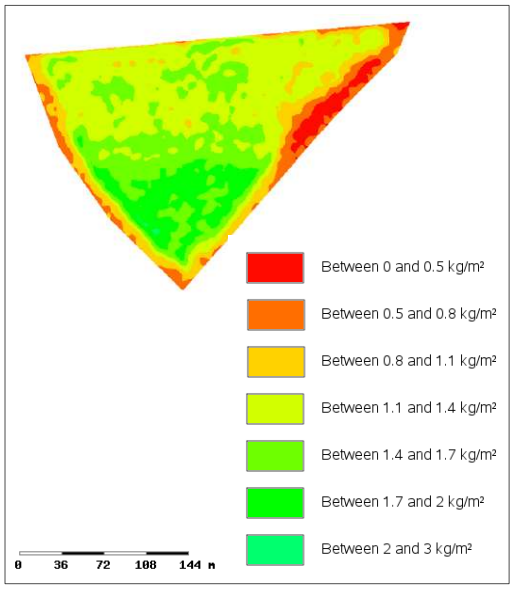
Image: RapidEye biomass map of a canola field in northern France from late February 2009



Results

Determination of Biomass for Canola

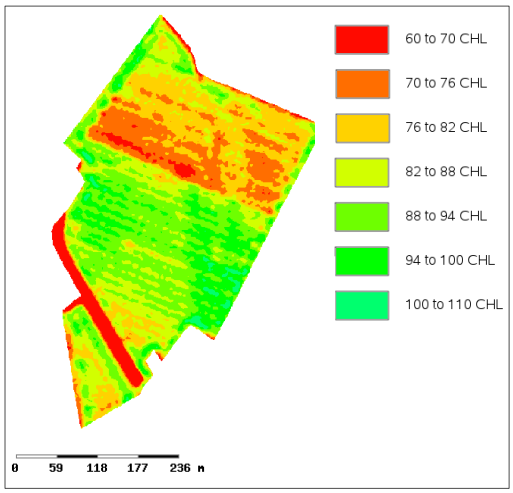
RapidEye successfully delivered the first prototypes of biomass maps based on RapidEye satellite imagery to several cooperatives in early 2009. RapidEye provided proof that measuring biomass of canola using remote sensing is feasible. Based on this, biomass changes between early and late winter can be calculated, which in turn can be used to measure the required nitrogen application in early spring. Nitrogen fertilization after the winter period is a critical element in canola production in northern France. The amount of nitrogen fertilizer required is dependent on the residual nitrogen in the soil at the end of the winter period. Biomass change of canola plants from the beginning to the end of winter is an indicator for residual nitrogen in the soil, and can be used as an input to models which determine the spring nitrogen application rates.

Determination of Chlorophyll Content for Wheat

RapidEye successfully delivered the first prototypes of chlorophyll maps based on RapidEye satellite imagery to different cooperatives in June 2009. On the basis of these maps for chlorophyll estimation, the cooperatives can make recommendations for better nitrogen fertilization. Seasonal information on the actual growing conditions help the cooperatives to make more informed agricultural management decisions. The results and field measurements are being tested, analyzed, and confirmed this year before introducing this solution into the wheat market in 2010.

Benefits

Image: RapidEye chlorophyll map of a wheat field in northern France from mid May 2009



Through RapidEye's services S2B was able to offer their customers valuable and more cost-efficient recommendations for nitrogen fertilization within a short period of time.

Determination of Biomass for Canola

RapidEye successfully developed biomass maps for S2B to support nitrogen fertilization recommendations. Throughout the duration of the project, European skies were frequently cloudy. However, one of the key benefits of owning a constellation of five identical Earth observation satellites is that RapidEye could revisit these regions daily, increasing the likelihood of capturing areas with lower cloud cover levels.

Determination of Chlorophyll Content for Wheat

In June 2009, RapidEye successfully developed chlorophyll maps for S2B to support nitrogen fertilization recommendations. RapidEye's competitive advantage is its red edge spectral band which provides specific information about the chlorophyll content of plants. Conclusions about the vitality of the vegetation in an observed area can be made with this information. Currently, the results of the pilot project are being analyzed before entering the wheat market in 2010.

Strategic Partnership

After having conducted several joint pilot projects in preparation for a collaborative business, S2B and RapidEye entered into a strategic partnership agreement in 2009 to implement and operate the services tested in 2008 and early 2009. S2B and RapidEye have predefined a set of additional services that shall be developed, tested, implemented and operated. This assures that RapidEye will be a partner for all remote sensing projects that VISIOPLAINE plans over the next three years. With this cooperation in place, S2B continues its strategy to enhance services for farmers, offer additional agricultural services, and expand these services to other European countries.

Would you like to learn more about what RapidEye can do for your company? Please visit our website www.rapideye.de/ or e-mail us at sales@rapideye.de.

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