



Boris Tacquenier

IMPROVED ANALYSIS OF THE FLEMISH AGRICULTURE INDUSTRY

Sound policy making must be based on solid facts and profound insight in sector activities. For this reason, the Department of Agriculture and Fisheries of the Flemish government recently implemented SAS solutions to improve their ability to thoroughly analyze the agriculture industry. The integrated SAS Intelligence platform enables them to more accurately revise and improve the annual profitability report as well as assess the sector's environmental impact.

Sector

Public

Business Issue

Enable comprehensive reporting on Flemish agriculture industry

Solution

SAS® Enterprise Intelligence Platform, including complete data integration functionality.

Benefits

Improved policy formulation based on:

More reliable information: SAS is able to handle large amounts of data which enables the collection and analysis of more detailed data about the observed farms. SAS is also able to integrate data in such a way that an extrapolation of the sampled data provides reliable information on the population.

Fast and correct reporting: the SAS platform makes it possible to fully automate reporting, eliminating the disadvantages of manual processing.

Broader scope: SAS gets more out of the available data, opening opportunities for new studies and findings.

SAS SOLUTION MAXIMIZES INFORMATION FROM AVAILABLE DATA

Is farming a profitable economy in Flanders? What are the most profitable production types and on which type of land do they perform best? What are the main costs and how do they evolve? What is the environmental impact of the various agricultural activities? The answers to these and many other questions are very important for policy makers in reaching decisions about support and regulation of the agriculture industry. That's why a solid knowledge of the sector's activities is indispensable.

Comprehensive data collection is only a start

The Department of Agriculture and Fisheries of the Flemish government initiated comprehensive data collection back in 2003 through the implementation of accountancy software. The first goal was to analyze the profitability of the sector. To do so the Division for Agricultural Policy Analysis collects data of 720 Flemish farms. This virtual network of farms, called Landbouw Monitoringsnetwerk or LMN, is a representative sample of the entire population of 33,272 Flemish farms. Boris Tacquenier, Data Analyst and Policy Consultant at the Division for Agricultural Policy Analysis points out that this action was in fact only a start.

"The database helped us in creating the annual profitability report, but its full potential wasn't unlocked until the implementation of SAS in 2007."

Integrated geo-economical data enable extrapolation

Indeed, SAS proved to be the perfect solution to enhance and empower the LMN database. The profitability report analyzes yields, production costs, revenues, and profits for all types of Flemish farms. Since the LMN database was only a sample, its data had to be integrated with geographical and typological data coming from the Statistics Division of the Belgian Federal Public Service Economy. "SAS ETL capabilities and data integration tools enabled us to accurately extrapolate the LMN sample to the entire population of Flemish farms," says Tacquenier. "We used fine-mesh stratification in order to extrapolate the LMN data regarding the farm's production and sales volumes." In this mesh, all farms are classified into one of three size classes, five types of farming land, and a wide range of production types. The combination of these classes leads to a complex stratification mesh of 120 cells. "We have been able to successfully model the mesh in SAS," says Tacquenier,

“The full potential of our database wasn’t unlocked until the implementation of SAS, opening up new opportunities for more in-depth studies.”

Boris Tacquenier,

Data Analyst and Policy Consultant at the
Division for Agricultural Policy Analysis

“In order to assess the environmental impact, we had to include technical data on herbicides and pesticides. SAS enabled us to integrate these data seamlessly and accurately.”

“even though it was complicated by the fact that for some cells we did not have enough farms for as reliable a sample as we might have wished.”

Towards an automated profitability report

In order to automate the profitability analysis as much as possible, all data sources were analyzed and data marts were constructed. “The challenges in analyzing these data are quite diverse, ranging from simple data aggregation to very complex calculations,” observes Tacquenier. “Therefore we used various SAS tools as well as SAS coding, depending on the complexity of the required calculations. The good thing is that all of these methods can be neatly integrated into the same data environment, so we are able to gradually, but continuously, improve, expand, and refine our model.”

Thanks to this new SAS empowered data processing method, future profitability reports will be produced much faster and require no more manual processing or ad-hoc data conversion while being as reliable as ever. Tacquenier notes that this is also due to the fact that users can now create a lot of reports on their own. The solution includes powerful reporting tools. But it is also equipped with an add-on to Excel, enabling users to easily export information to a commonly used tool for further analysis.

Data integration opens up new possibilities

Another outcome of the SAS implementation was the environmental impact assessment, published in April 2008 as “Milieudruk in de landbouw”. In this study, the environmental impact of the agriculture industry is measured by analyzing the amount of energy resources, herbicides and pesticides, and water used as well as other consumed and produced nutrients. The result is expressed as an indicator, showing the average energy consumption per hectare or number of cattle for seven types of farms. The study required the integration of a great deal of technical data, such as the composition of the various herbicides and pesticides, including information about the components’ environmental impact. “Clearly, this is a very complex study,” says Tacquenier, “and it required extensive coding in SAS to produce the report. But this coding is completely integrated into the total solution, which demonstrates the enormous versatility of the SAS platform. It is just one of the reasons we are so very confident that SAS will prove instrumental in all of our future studies, enabling a continuous improvement in our policy making.”



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FEBRUARY 2009

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