



Formulation Software

A Buying Guide

Aqua Feeds: Formulation & Beyond recently conducted a survey of companies that develop software solutions for feed formulation. Ten companies that develop feed formulation were contacted and seven companies responded to the survey questionnaire. The questionnaire had several open-ended questions on the products and services offered by the companies and their target markets. The survey results reveal companies offering a diverse range of products. Feed companies considering to upgrade or buy formulation software need to take into account several factors in their decision. They are:

What is the feed company's need?

The need depends on their size, number of feed plants and products that they have, complexity of the products, and whether they intend to integrate the formulation software with other applications, for example, lab data systems, bag label generation, ingredient inventory systems, etc. Special needs such as traceability must be considered as well. The ingredient market in which they operate is also an important factor. A company that is planning on using only corn and soybean meal may accomplish their formulation objective with a simple spreadsheet (see box on UNEform).

How well prepared are they with data inputs required to run a formulation system?

Formulation software generates formulas based on the data provided by the feed company. The primary data input in any formulation system are the ingredient composition data (such as the proximate composition values typically obtained from the lab) which drive various computational models to derive other nutrient values such as amino acid composition. The feed company should have access to reliable and accurate input data. It should also ideally have a system in place to update the data periodically and dynamically. If the company does not have a reliable data source, it will have to find out from the software providers whether such data can be procured.

Whether the formulation software will be compatible with the hardware and software setups existing in the feed company?

Computer hardware and software evolve everyday and compatibilities change over time. A formulation company that offers products across multiple platforms is preferable to one that is limited to one platform. More importantly, the company should be constantly upgrading its products to take advantage of new capabilities offered by developments in computer science. Most formulation software are designed to run on a standard, store-bought desktop or laptop. Only when highly complex problems such as large multi-blends with multiple price sets; multi-plant optimizations and associated logistics are to be solved, an advanced computer system will be required.

Post-sales support services offered by the formulation company.

This includes personnel training, troubleshooting, customization, help desk, etc. It will be diligent to find out whether the formulation company has on its staff sufficient resources to handle support in relation to its customer base. This will be especially important in countries and companies that have limited IT resources.

Integration capacity with other company software, especially manufacturing and accounting.

Formulation is only one step in the feed business that converts raw materials into finished feed. Capacity and ease of integration of the software is essential if formula changes need to be implemented rapidly throughout the organization.

Following is a brief profile of the seven feed formulation companies that participated in our survey.

ADIFO NV

Location: Belgium
Year of Start: 1974

The company offers *BESTMIX*, a least-cost formulation and optimization package that is Microsoft-certified. The software contains powerful mathematical models that support the user with MRP (material requirement planning) by linking product development, purchase, production and sales. The software allows easy expansion and internationalization for companies that have several production units and offices. It is available in several languages and offers options to implement diverse quality standards (ISO, HACCP, GMP, etc.) and traceability. It also provides an optimal transfer of knowledge in the Supply Chain and in an E-business environment, enabling feed manufacturers to build their relationship with suppliers and buyers.

Contact person: Fred Zeelen, adifo@adifo.be
Company website: www.adifo.com

Creative Formulation Concepts, LLC

(Formerly known as Agri-Data Systems)

Location: Maryland, USA

Year of Start: 1978

The company offers software solutions in two Windows-based versions called *Concept5* and *Concept4*. *Concept5* contains a broad range of standard formulation functions and is the required database for integration of advanced formulation and management options. Modules such as the multi-step model; multiple product optimization for one or more plants; product costing/pricing, labeling and purchasing can be added at any time. *Concept5* provides flexible configuration choices ranging from a single user to an unlimited number of concurrent users and manufacturing plants. The *Concept4* systems are limited to single users and plants and offer basic least cost features.

Contact person: Alice Pensmith, Agri-data@erols.com

Company website: www.creativeformulation.com

Domit & Domit Ltd.

Location: Parana, Brazil

Year of Start: 1986

The company's product, *OptiMix* is offered as a complete software package to create and manage feed formulas for small to large feed producers. Easy to learn and use, with embedded multi-client, multi-plant, multi-product, and multi-user capabilities, the product offers a user-friendly Windows interface and allows data to be exported to MS Word and Excel. The Corporate package can work in a network and can be integrated with database management software like Oracle, MS SQL, etc. It also provides a tool for data integration between a main office computer and remote, off-line systems. The company enables on-line support via the Internet.

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Company website: www.optimix.com.br

Feed Management Systems

Location: Minnesota, USA

Year of Start: 1968

The company's flagship product is *Brill Formulation*, an optimization application that is designed to handle formula creation, large batch optimization problems as well as multi-product, multi-plant, multi-price optimization. The company offers software solutions for generating feed tags, pricing and quoting, and feed ration balancing (for in-field customer ration development), and a real-time information management system that ensures correct formulas are being used in production with complete trace and track capabilities.

Contact person: Mark Gahl, mgahl@feedsys.com

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UNEForm: A Free Feed Formulation Software

Microsoft Excel offers linear programming capabilities that are sufficient for teachers, researchers and students who want to teach or learn feed formulation or create simple, experimental diets. The tool is called "Solver" and is offered as an Add-In. Dr. Evan Thomson at the Animal Science department of the University of New England, Australia has developed an MS Excel spreadsheet file called *UNEForm.xls* that is already configured to formulate animal feeds. The file can be downloaded at <http://ansc.une.edu.au/ansc/nutrition/downloads.html>.

Feedsoft Corporation

Location: Texas, USA

Year of Start: 2004

The company offers two versions of its formulation software, *Feedsoft Formulation*. The Standard Edition is an affordable entry level system designed for animal practitioners who want to easily create least-cost feed formulations from a single database composed by any number of available ingredients. The advanced Professional Edition is the tool for those who work with multiple ingredient databases or need to manage ingredient data and formulas from multiple clients and sites. The Professional Edition includes additional functionalities such as multi-database support, price manager, batch formulation, and an import/export wizard.

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Flanders Nutritional Technologies N.V.

Location: Belgium

Year of Start: 1999

The company offers its formulation software *Alfablend* in two versions. The Professional version is a single product optimization with unlimited number of raw materials, nutrients, and recipes. It also offers tools for labeling and liquid feeding. The Enterprise version contains all the features of the Professional version, plus multi-product optimization across multiple plants. It also contains an easy-to-use tool for premix extraction out of a complete recipe. The software works on a native Windows platform and enables exporting of all information to pre-formatted MS Word templates for printing and documentation purposes.

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Format International Limited

Location: Surrey, UK & Missouri, USA

Year of Start: 1981

Single-Mix[®] is the core program that controls and maintains the ingredient and product database used in all optimization programs developed by Format. The product has the ability to generate key pricing and management reports and offers a range of additional tools such as parametrics. Advanced products from Format handle multi-product, multi-plant and multi-time period optimization. It also offers a multi-component formulation/recipe optimization system that allows the design and construction of products that include sub-components each of which carries its own specification. Other advanced capabilities include quality assurance checks on formulas, product labeling, full formulation data archiving and interfacing options. The software is designed for Windows operating systems in standalone, client-server or terminal server configurations.

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