

Easy, Quick, Cost-Efficient Product Development

'Nice to Have Utilities'

Around the world the commodity prices for fat and oils are rising. At the same time, the requirements for the quality of fats, oils and fatty products are becoming more diverse and complex. Therefore the new version 6.3.0 of *Oil-Expert.net* comes with new functions for the calculation and optimization of fat blends. In addition to many smaller improvements and extensions, there are two major new features:

- Definition of minimum and maximum amounts for individual components in fat blends for the price optimization and the 'Component Mixer'.
- The 'Component Mixer' has two additional functions - a function to delete individual components and a selection box to add additional components.

Price Optimization - Min-/Max-Percentage

The results of research and product development have a very great influence on the cost of the products. The production can not save the costs even by the most sophisticated production processes or by purchasing strategies, which has not been awarded to opportunities in project development.

In the production of fats, oils and fat-containing products the largest cost factor is the fat and oil. Therefore in this area the most significant savings can be reached, especially because these commodities are traded on the stock exchange and are therefore subject to more or less price fluctuations.

To underline the importance of raw material costs, a short simplified example to illustrate: At 70% proportion of raw material costs in the total costs and a operating profit of 5% before interest rates and taxes, results in a reduction of raw material costs of 1% increase in operating profit to 6% - that is an increase of 20%. If you wanted to reach the same effect with an increase in sales, 20% more sales would be required. This little example clearly shows how important the factor raw material costs is. Negligence and omissions in raw material purchasing therefore should not happen in light of this leverage effect. Errors in the purchase of raw materials can have an effect on the existence of a company, what the past has shown.

To optimize the raw material costs with *Oil-Expert.net*, the module Price optimization is used. To simplify the optimization, it is now possible to define for each component minimum and maximum values for the percentage next to the fixing of single components to a fixed percentage. This is often necessary, as shown in the dialogs below. The Palm Stearin is limited in this blend to a Max-content of 10%. At higher levels the fat

blend would leave a tallowy taste on the tongue. The limits are taken into account both the Component Mixer as well as the automatic price optimization.

The image displays three overlapping windows from the Oil-Expert.net software interface.

Datasheet Window: Shows metadata and a components table. The components table is as follows:

Component	Completely	Only Fat	Min	Max	Locked
Raw material					
Coconut oil	17.6	17.6			<input type="checkbox"/>
Palm stearin	6.8	6.8		10.0	<input type="checkbox"/>
PK Interestification	34.2	34.2			<input checked="" type="checkbox"/>
Rapeseed oil	12.2	12.2			<input type="checkbox"/>
Sunflower oil	29.2	29.2			<input type="checkbox"/>

Component Mixer Window: Titled "with rapeseed oil", it features a line graph with two curves (red and blue) on a coordinate system where both axes range from 0 to 40. To the right of the graph is a components table with sliders for each component's value:

Lock	Act.	Min	Max	Name
<input type="checkbox"/>	17.6			Coconut oil
<input type="checkbox"/>	6.8		10.0	Palm stearin
<input checked="" type="checkbox"/>	34.2			PK Interestification
<input type="checkbox"/>	12.2			Rapeseed oil
<input type="checkbox"/>	29.2			Sunflower oil

Optimiere Mischung Window: Shows optimization parameters and a convergence plot. The parameters are:

- Iterations: 500
- Threshold: 5
- Optimize price:

The components table in this window is:

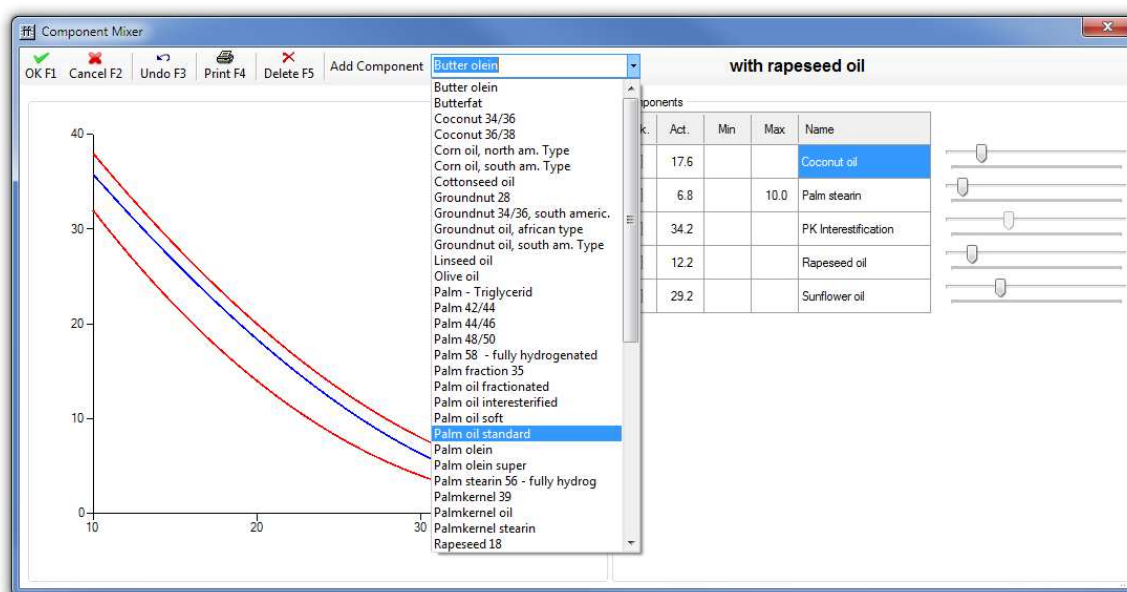
Fix	Act.	Min	Max	Component
<input checked="" type="checkbox"/>	8.8			Coconut oil
<input type="checkbox"/>	8.8		10.0	Palm stearin
<input checked="" type="checkbox"/>	34.2			PK Interestification
<input type="checkbox"/>	17.8			Rapeseed oil
<input type="checkbox"/>	30.4			Sunflower oil

The convergence plot shows a green bar chart representing the fitness function over iterations. At the bottom, the current state is: Iteration 500, Price 1.385, Fitness 1.0000.

Component Mixer - Adding/Deleting Components

The Component Mixer (see figure below) is used for easy and efficient development of a fat blends by changing the proportions of the blend with the sliders to be seen in the figure below. To add or delete components, you have to close the Component Mixer and make the changes in the components dialog, which is accessed via the so-called Data Sheet. A somewhat more complicated procedure.

With the new version, changing all parameters in the Component Mixer dialog is possible. In addition to the min / max values all components can now be deleted and other components can be added. When deleting the amounts of the remaining components are normalized to 100%, according to the level of the amounts. When you add a component, the component is initially set to 0% and can be increased thereafter with the slider.



Oil-Expert.net

For more information, including the previous newsletter and a product brochure, please visit the websites listed below.

We would be glad to provide you with further information. Please feel free to contact us:

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