

## BESTMIX Feed Formulation. Release notes 3.33.

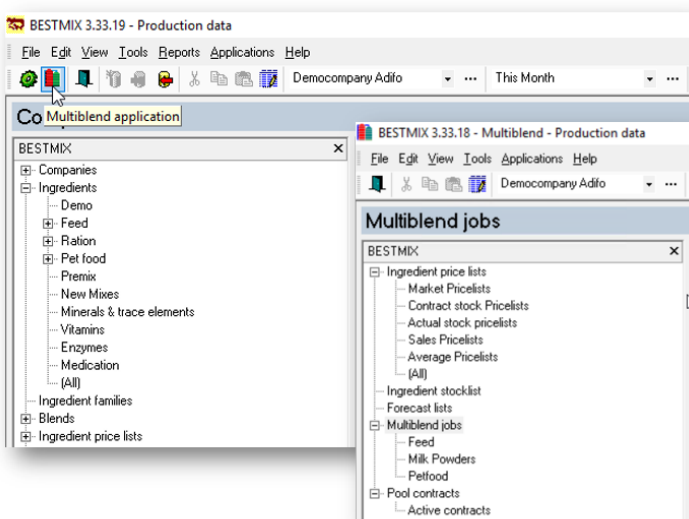
### NEWEST FEATURES IN BESTMIX FEED FORMULATION

Adifo is known around the industry as a real innovator. We are constantly improving and developing upon our BESTMIX Software, with both the help of our consultants, and with the input of our users around the globe. This allows us to release 1 or 2 new versions of BESTMIX® each year. Every new release is jam-packed with a bunch of new features and benefits. Here a list of what's new in the latest release of BESTMIX, version 3.33:

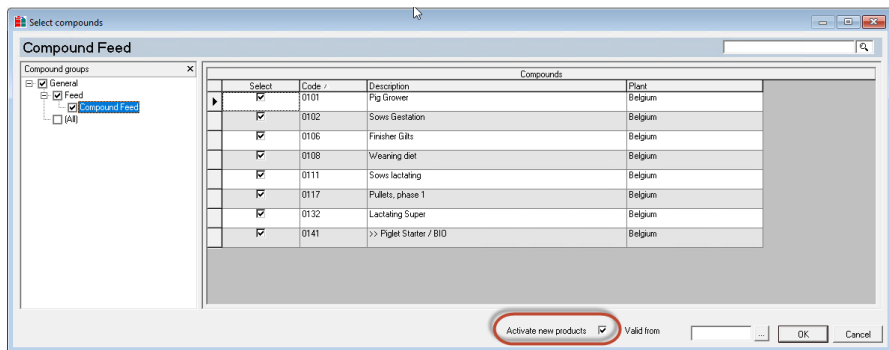
### MAKE USE OF THE NEW FUNCTIONALITIES IN MULTIBLEND TO INCREASE EFFICIENCY

With BESTMIX Multiblend, you can deal with different challenges. On one side, you have the formulation managers whose goal is to steer the mill and to drive production. Because there is an increasing amount of formulas and a continuously changing environment, the formulation manager wants to optimize the formulas in one go and wants to deliver a quick optimal solution. The second type of challenge is for the procurement manager whose goal is to manage the raw material planning. He or she needs to be able to quickly evaluate his or her buying opportunities and allocate the ingredients at the right time and the right place. If you want to learn more about the usage of Multiblend, I can refer to our Multiblend webinars that you can download from our website.

In BESTMIX version 3.33, we moved the Multiblend functionality to a separate application. All relevant Multiblend information such as forecast lists, ingredient stock lists and pool contracts were also moved to this application. The ingredient pricelists on the contrary are available in both applications. This change allows you to have the BESTMIX main application and the Multiblend environment open at the same time, allowing you to do a Multiblend optimisation for a certain plant and still adjust formulas in singleblend for formulas not used in that Multiblend job. Resulting in more efficiency.



The second fine-tuning in Multiblend has to do with identifying the new version as either an active version or an inactive one. When products are created during the Multiblend rounding it is not always desirable to make them active as well (which was until now the default behaviour). Therefore, we added a checkbox at the bottom of the Multiblend rounding window to enable/disable this option. Resulting in more flexibility.



## GET INTRODUCED TO 'MULTIBLEND PREMIUM SERVICE'

Multiblend Premium Service offers a cloud based optimisation solution for big Multiblend jobs where the complexity in the usage of constraints is high, such as using priority rules, step values, minimal inclusion, combination rules and pool contracts. A first big benefit is that it is cloud based, so you do not need to invest in servers with high calculation capacities. A second big benefit is the ideal performance results you can achieve for those kind of jobs.

Below you will find a practical example, showing you the premium performance capabilities of Multiblend Premium Service. If you want to learn more about this offering, you can always contact us for more information.

Case	MB job time	MB job time with MB Premium Service
1500 compounds / 3 plants / 6 periods		
Multiblend job with stock + priority rule	35 min	3 min
Multiblend job with stock + priority rule + minimal dosage	12 h	3 min

## LOOK AT THE REAL PRODUCT COMPOSITION (TAKING INTO ACCOUNT DOSING PARAMETERS) DURING OPTIMISATION

When formulating and making changes to an existing formula, it is useful to be able to see what the current optimization result would look like if the compound was rounded,

- without creating a product
- without saving the compound

Therefore, a new icon is now available in the compound toolbar, called virtual rounding. When clicking this button, a new window opens up where you can compare the optimization result, the virtual rounded result and the active product for the

- Price
- Composition

**Virtual rounding**

Price  
 Compound 145,926 €/ton  
 Virtual rounding 145,910 €/ton  
 Product 143,181 €/ton

Composition				Analysis (Per 1 kg product)						
Code	Description	Compound	Virtual	Product	Code	Description	Unit	Compound	Virtual	Product
11200	Itace	25,000	24,923	42,041	PA00	DM	%	89,017	89,015	89,284
29820	Rapeseed meal >38% CP	14,757	14,757	18,000	PA01	Moist	%	10,983	10,985	10,716
27220	Sunflower meal 18-20% CF	11,000	11,000	11,000	PA02	CP	%	20,000	20,004	20,042
20700	Wheat bran	6,194	6,194	6,571	PA03	CFat	%	6,000	5,989	6,072
15200	Rice bran, solv extr.	5,000	5,000	5,000	PA04	CF	%	6,808	6,809	7,061
11900	Itace bran	5,000	5,000	5,000	PA05	Ash	%	6,641	6,642	6,493
44800	Animal fat, rendered	2,059	2,050	1,800	PA07	Starch-EW	%	33,000	33,001	32,997
20100	Wheat	18,914	19,000		PA12	NIE	%	50,347	50,351	50,567
AD-VLK01_C03	Broiler grower concentrate	12,077	12,077	10,588	EPH00	AME-poultry	MJ	11,040	11,037	10,983
					EPH01	AME-broiler	MJ	8,419	8,404	11,981
					EPH03	AME-poultry (Kcal)	Kcal	2'012,212	2'009,629	2'648,349
					AA00	LYS	%	1,337	1,337	1,304
					AA01	MET	%	0,365	0,365	0,381
					AA03	MET+CYS	%	0,753	0,753	0,779
					AA04	THR	%	0,743	0,743	0,773
					AA05	TRP	%	0,232	0,232	0,227
					DAApH00	DiG.LYSpl	%	1,153	1,153	1,104
					UDAApH00	Un Dig.LYSpl	%	0,184	0,184	0,200
					DAArH01	DiG.METpl	%	0,306	0,306	0,318

# WORK WITH THE NEW PREMIX MANAGEMENT EXTENSIONS TO HAVE A MORE ACCURATE & EASY RECIPE DESIGN

First of all, we optimised the UI when optimizing a premix. Before, you could select or unselect the “change values” check box when changing the inclusion rate of a premix. However, this description was sometimes confusing and not as easy to understand. Therefore, the “Change values” checkbox has been modified into a combo box with two options:

- Update premix constraints when the inclusion rate changes
- Update end-product constraints when the inclusion rate changes

This is much clearer and simpler to understand for the end-user, resulting in an easier recipe design.

Type	Code	Description	DWL	Mix	Amount	Product	Minimum	Maximum	Type	Price	Nutrient	Unit	Value	Product value	Target	Minimum	Maximum
	594	Salt			41.600	41.400			Amount	6.000	DM	g/kg	4.835	4.836			
	589	Limestone			20.700	20.947			Amount	2.650	Na	g/kg	0.753	0.749	0.750		
	618	Choline chloride 50%			20.202	20.202			Amount	86.000	Fe	mg/kg	80.666	80.000	80.000		
	626	Iron Sulphate monohydr. 30%			5.661	5.614			Amount	27.500	I	mg/kg	1.000	1.000	1.000		
	629	Zinc Sulphate monohydr. 36%			3.216	3.216			Amount	60.000	Mn	mg/kg	70.000	70.000	70.000		
	630	Manganese oxid. 62%			2.377	2.377			Amount	38.000	Vit A	IU	12500.000	12500.000	12500.000		
	607	Vitamin E 50% adonibate			2.105	2.105			Amount	360.000	Vit B1 (Vitamin)	mg/kg	2.000	2.000	2.000		
	621	Cu Sulphate 25%			1.263	1.263			Amount	79.500	Vit B12 (cyanocobalamin)	µg/kg	20.000	20.000	20.000		
	617	Vitamin B3 (Niacine)			0.816	0.816			Amount	395.000	Vit D3	IU	2500.000	2500.000	2500.000		
	605	Vitamin K 500 IU/mg			0.500	0.500			Amount	2200.000	Vit E	mg/kg	50.000	50.000	50.000		
	615	Vitamin B12 (1%)			0.408	0.408			Amount	205.000	Vit C	mg/kg	0.200	0.200	0.200		
	608	Vitamin K3 50% MPB			0.275	0.275			Amount	695.000	Se	mg/kg	55.000	55.000	55.000		
	616	Vitamin B5 (Calcium D-Pantothenate)			0.220	0.220			Amount	550.000	Zn	mg/kg	0.250	0.250	0.250		
	613	Vitamin B2 (Riboflavin)			0.191	0.191			Amount	1500.000	Co	mg/kg	15.000	15.000	15.000		
	606	Vitamin D3 500 IU/mg			0.105	0.105			Amount	650.000	Vit K3	mg/kg	3.000	3.000	3.000		
	614	Vitamin B6 HCl			0.089	0.089			Amount	1250.000	Vit B2 (Riboflavin)	mg/kg	7.500	7.500	7.500		
	623	Sodium Selenite 4.5%			0.094	0.094			Amount	195.000	Vit B6 (pyridoxine)	mg/kg	4.000	4.000	4.000		
	619	Vitamin B8 (Biotine 2% S.D.)			0.051	0.051			Amount	850.000	Vit B7 (Biotin)	µg/kg	50.000	50.000	50.000		
	612	Vitamin D3 500 IU/mg			0.045	0.045			Amount	1250.000	Vit B3 (Niacin)	mg/kg	40.000	40.000	40.000		
	625	Potassium iodide 98%			0.031	0.031			Amount	1500.000	Vit B5 (Pantothenic acid)	mg/kg	10.000	10.000	10.000		
	620	Vitamin D3 (Folic Acid 90%)			0.025	0.025			Amount	2300.000	Vit B9 (Folic acid)	mg/kg	1.000	1.000	1.000		
	627	Cobalt Sulphate monohydr. 33%			0.016	0.016			Amount	999.000	Choline	mg/kg	500.000	500.000	500.000		

Below you can find a practical example based upon the nutrient Density. Here you see that the value on premix level is 86. When we toggle to endproduct, you see that the value is the same. The other nutrients are on the contrary recalculated.

Type	Code	Description	Amount	Unit	Nutrient	Value	Minimum	Maximum
	619	Biotine 2% S.D.	0.025	mg	OT00	86.724		
	616	Calcium D-Pantothenate	0.110	mg	PA00	95.437		
	618	Choline chloride 50%	10.101	mg				
	627	Cobalt Sulphate monohydr.33%	0.008	g/L				
	621	Cu-Sulphate 25%	0.632	%				

Code	Nutrient	Unit	Value	Minimum	Maximum
VIT11	Folic acid	mg	1.000	1.000	
VIT12	Vitamin C	mg	0.000		
VIT13	CholineCl	mg	500.000	500.000	
OT00	Density	g/L	86.724		
PA00	DM	%	95.437		

## BENEFIT FROM THE PERFORMANCE IMPROVEMENTS

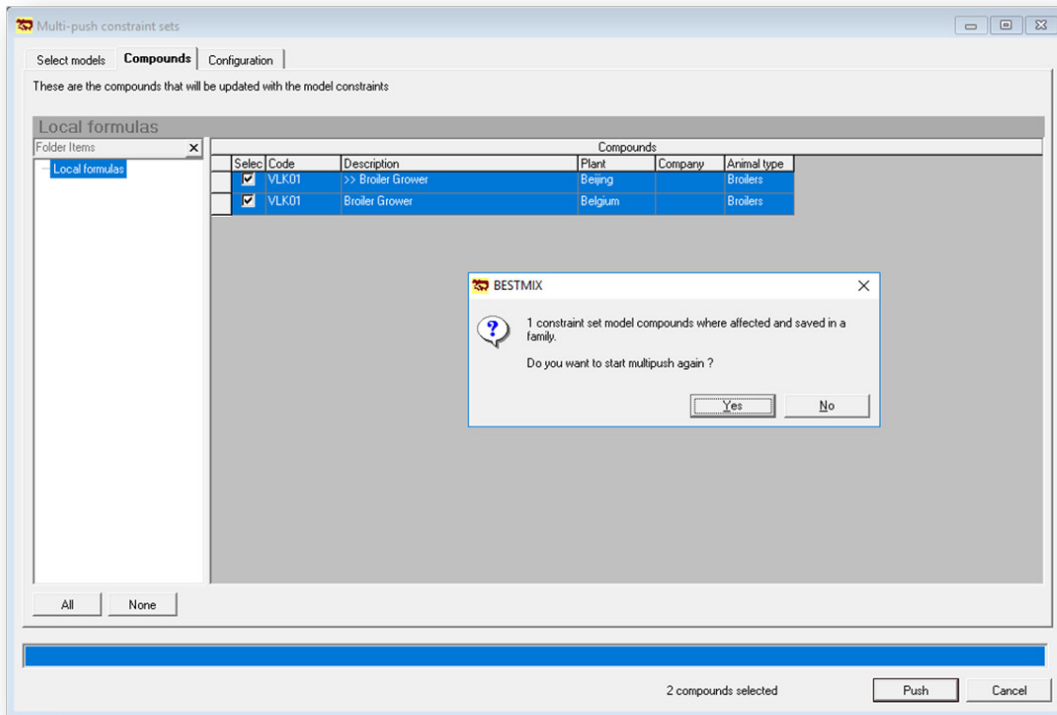
In the new version, we have achieved some nice performance improvements. First of all, Multiblend optimisations will now go about 30% quicker than before. We have downgraded this improvement towards version 3.31. So starting from version 3.31, you can benefit from this change.

The second performance improvement is at the level of report generation when doing a Singleblend rounding. When finishing the rounding process, the generation & saving of reports such as cost reports or blend orders will take 25-50% less time per report. To give you a practical example, we have tested a case at Adifo where the generation of the cost report went from 3,5 s towards 1,9 s

## USE EXTENSIONS ON PUSH/PULL FUNCTIONALITY TO HAVE A MORE AUTOMATED MODELLING SOLUTION

With compound modelling it is possible to define certain compounds as models useable for other compounds. The model compound can be legislation like for example in pet food the Fediaf regulation, but can also be a template or framework from Product Management that you wish to use when creating a new diet. There a lot of business cases applicable. More information about these cases can be found in a previous webinar that you can download from our website.

Now, in BESTMIX 3.33, we have fine-tuned this modelling concept leaning more towards an automated modelling solution. When BESTMIX updates a model, the push process can be automatically started when this checkbox is activated. You will get a notification when saving the changes in the model. When you use Multi-push and as a result other compound models are also effected, the program prompts you to continue immediately with the Multi-Push, as you can see here:



Ingredients in composition (100,000 %)

View: Standard

Composition: in %

Weight basis: Per 1 kg product

Endproduct: Premix

Type	Code	Description	Amount	Code	Nutrient	Unit	Value	Minimum	Maximum
-	619	Biotine 2% S.D	0.025	VT11	Folic acid	mg	100,000	100,000	
-	616	Calcium D-Pantothenate	0.110	VT12	Vitamin C	mg		0,000	
-	618	Choline chloride 50%	10.101	VT13	CholineCl	mg	50000,000	50000,000	
-	627	Cobalt Sulphate monohydr.33%	0.008	OT00	Density	g/L	86.724		
-	621	Co-Sulphate 25%	0.632	PA00	DM	%	95.437		

View: Standard

Composition: in %

Weight basis: Per 1 kg product

Endproduct: Premix

Code	Nutrient	Unit	Value	Minimum	Maximum
VT11	Folic acid	mg	1,000	1,000	
VT12	Vitamin C	mg		0,000	
VT13	CholineCl	mg	500,000	500,000	
OT00	Density	g/L	86.724		
PA00	DM	%	95.437		

