Are you looking for an affordable source of protein bypass?

Roasting soya to protect proteins is the most widespread source of bypass protein for cows. These products have been very successful in recent years and allowed producers to improve performance of lactation or daily weight gain. With the rise of energy costs, this solution is becoming more and more expensive.

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Rumiviv, a phytogenic product made by CCPA group, gives similar protection with a lower cost and represents an interesting alternative.

Switching from cooked soya to Rumiviv soya could not be simpler as the dosage can be the same as your current practices, or for more precise rationing, use the matrix values in either European (INRAe) or American (CNCPS) systems.

Rumiviv improves undegradable dietary protein value of soybean meal.

Why Phytogenic products are becoming more and more popular?

Interest for an alternative protein protection process using phytogenic is growing, this is largely driven by the global energy crisis and environmental concerns, as the process requires significantly less energy and is simple enough to be carried out at the feed mill or farm level.

However, the lack of publicised material and the precise values in the various rationing systems are still a barrier for developing these new practices.

In order to provide reliable levels of protein protection the CCPA group has conducted several in-vitro and in-vivo trials to discover the matrix values for the different rationing systems.

Experimental comparisons carried out with other protection practices have identified the most up to date values for soya treated with Rumiviv.

While using Rumiviv you can improve the protein bypass of your current feeding programme without detrimental effect on the cow's intestinal digestibility.

Table 1. Comparison Rumiviv vs formaldehyde and heat treated soya in vivo.

Comparison Rumiviv vs formaldehyde			
	Rumiviv	**Formaldehyde**	**Significativity**
ECM* Kg/day	33	33.3	NS
Urea mg/l of milk	284	260	P<0.0001
Comparison Rumiviv vs heat treated soya			
	Control	**Rumiviv**	**Heat treated** soya expeller**
ECM* Kg/day	37.1	39.7	39.3
MUN mg/l of milk	10.3	9.75	9.14

*Energy Corrected Milk, ** Soyplus

What is Rumiviv?

Rumiviv is a plant-based additive with three main components:

- Tannins to protect raw material degradation by the microflora of the rumen by direct link to the protein fraction.
- Trace elements help to regulate the microflora.
- Spices which improve pancreatic secretion for a better intestinal absorption.

Selected tannins decrease protein degradability in the rumen. Rumiviv shows a strong decrease in ammonia production (60%) in artificial rumen. This decrease in ammonia production is similar to that of cooking soya (expeller, extruded, with or without sugars). To validate these values we tested the product alongside other practices of protection. We tested Rumiviv against both formaldehyde protection and cooked soya.

In vivo test versus others protection practices

In the trials the result of Rumiviv's treatment was included in the matrix values along with the impact on the protein degradation and metabolisable values. The objective of the

Continued on page 15

	INRA 2018	NRC	CVB
Soya+ Rumiviv	UFL: 1,30	NEl: 1980 kcal/kg	VEM: 1080/kg
	PDI: 327	RUP: 319g/kg	DVE: 355g/kg
	PDIA 314	RDP: 115g/kg	OEB: 73g/kg
	Rumen Protein Balance: -36		

Matrix values are available upon request on the author.

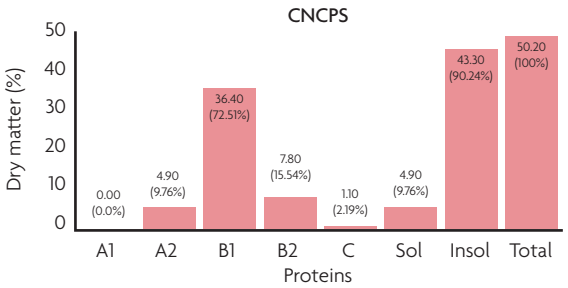

Fig. 1. Examples of matrix values of soya with Rumiviv in different systems.

Continued from page 13
trials was to show that in the French system (INRAe) or American system (CNCPS) the values adopted were good and performances identical as 'gold standards'.

How to use Rumiviv?

It is simple to replace protected soya with Rumiviv soya by using the formula:

1kg of soybean meal protected by an industrial process = 1kg of Soya + Rumiviv

At South Dakota University they substituted 1.3kg of Soyplus with 1.3kg of Soya + Rumiviv. By substituting on a weight for weight basis, the animals still get the same quantity of undegradable protein and obtain the same level of performance.

For a more precise input, matrix values can be used. Rumiviv can be used to boost soya in undegradable dietary protein (UDP), but it is also possible to use Rumiviv alongside rapeseed as a replacement to soya. This could offer a cheaper alternative.

Benefits of Rumiviv

Rumiviv is very easy to use. There is no need to have a specific raw material and for feed plants, this frees up silo space and represents a great financial advantage.

It uses less energy when compared to the production of the heat treated soya which keeps production cost at a much lower level.

With an estimated production cost of €25/T of soy + Rumiviv, compared to €25 to €100/T for other protective solutions, the impact on profitability is clear. We use a specific tannin and a low level of inclusion to reduce the risk of overprotection and disruption of amino acids in the rumen, so there is no detrimental effect on intestinal digestibility.

In the trial at South Dakota University, they looked for total-tract digestibility and saw no significant difference among treatments. Like all sources of UDP you have to check for enough rumen degradable protein (RDP).

Rumiviv is successfully used many countries throughout the world. ■

References are available from the author on request