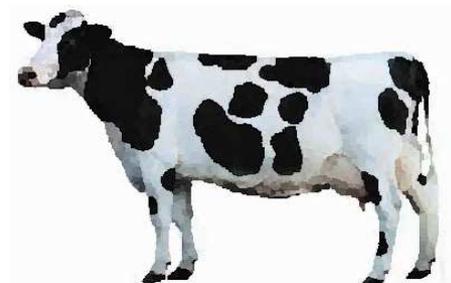




## COVARAP

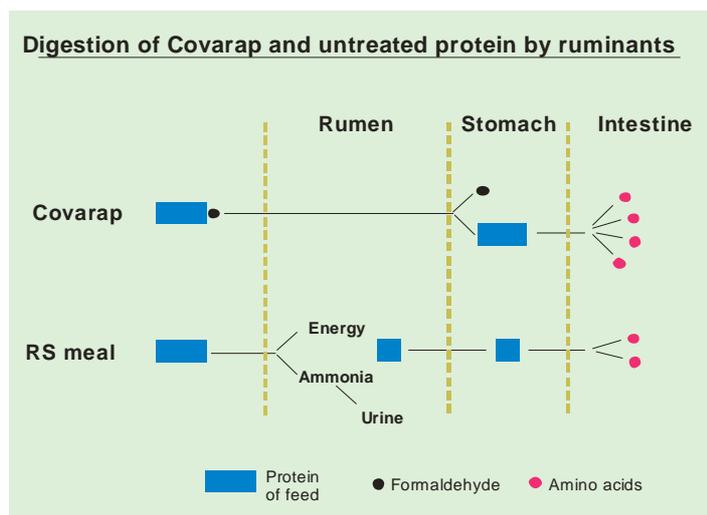
### Protected rapeseed proteins for ruminants

Highly productive ruminants need highly digestible proteins and amino acids for the production of milk and body proteins. Degradability is a key factor in the protein evaluation of ruminant feeds – therefore, premature, microbiological breakdown of these valuable proteins in the rumen should be avoided at all cost. Rumi RAP was specially developed to provide the animal feed sector with undegradable proteins that maximize nutritional value.



**Covarap** is produced using specific chemical treatment of high quality rapeseed meal. This treatment increases the amount and share of rumen undegradable protein (bypass protein) in soybean meal more than twice.

Binding formaldehyde to proteins prevents the latter from being degraded by microbes in the rumen. The bond, however, is reversible, and is released in the low pH conditions in the stomach. The proteins can then be enzymatically digested and used by the animal in an optimal way. This makes it high-value ingredient that combine rumen undegradability with maximum



intestinal digestibility at a relatively low cost per percentage of intestinally digestible protein. The optimal balance between protein undegradability and intestinal digestibility is achieved by careful dosage of exactly the right amount of formaldehyde. Formaldehyde is widely found in nature, and has been safely used for more than thirty years to increase protein undegradability. Research has shown that formaldehyde is almost completely metabolized in the animal body and leaves no impermissible residue in the end product.

## Base attributes of **COVARAP**

- ☑ Produced from good-known natural stuffs using long-time authentic technologies.
- ☑ Contains high ratio of proteins with digestibility 84 % - 85 %.
- ☑ The share of protected rumen undegradable proteins is 80 %.
- ☑ Produced from high quality rapeseed meal. Proteins keep during treatment unchanged therefore also the ileal digestibility remains without changes.
- ☑ Physical and organoleptical properties of original rapeseed meal are retained.
- ☑ Above mentioned properties leads to highest utilization of proteins from feed and thus also to highest milk production, gain, keep milk production during high temperature and allow decreasing total protein content in feed dose keeping production without changes.

## Typical analysis of **COVARAP**

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<b>Dry matter</b> [%]	87,0	<b>Lysine</b> [g/kg]	17,1
<b>Crude protein</b> [%]	34,2	<b>Methionine</b> [g/kg]	7,9
<b>Fat</b> [%]	3,2	<b>Met + Cys</b> [g/kg]	17,1
<b>Crude fiber</b> [%]	12,1	<b>Tryptophan</b> [g/kg]	5,2
<b>Ash</b> [%]	6,8	<b>Threonine</b> [g/kg]	17,1
<b>Starch</b> [%]	6,1	<b>Arginine</b> [g/kg]	13,1
<b>Sugar</b> [%]	9,2	<b>Calcium</b> [g/kg]	7,7
<b>Linolenic acid</b> [%]	0,5	<b>Phosphorus</b> [g/kg]	11,1
		<b>Potassium</b> [g/kg]	12,6
		<b>Sodium</b> [g/kg]	0,3
		<b>Magnesium</b> [g/kg]	3,8
		<b>Copper</b> [mg/kg]	7,0

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<b>Metabolizable energy</b> [MJ/kg]	10,16
<b>Net energy lactation</b> [MJ/kg]	6,14
<b>Net energy fattenig</b> [MJ/kg]	6,31
<b>Protein digestibility</b> [%]	84,51
<b>Ileal protein digestibility</b> [%]	81,80
<b>Rumen undegradable protein</b> [%]	80,11



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