

Estimated lysine and methionine levels of proteins escaping the rumen from several dietary protein sources (22 treatments, 6 exp. Robinson 2008)

	Methionine % CP		Lysine % CP
Microbial protein	2.2		8.9
Fishmeal	3.6	Blood meal	7.7
Corn products	2.5	Fishmeal	5.7
Grass legume	2.4	Soy products	5.3
Barley products	2.1	Canola products	4.6
Canola products	1.9	Grasses legumes	3.6
Linseed meal	1.9	Barley products	2.9
Soy products	1.5	Linseed meal	2.7
Blood meal	1.0	Corn products	2.3
Average	2.1		4.2

Impact on dairy cow performance of methionine, lysine or combined methionine and lysine supplementation

	Methionine	Lysine	Met/Lys
Experiments (n)Fishmeal	54	12	47
Cows comparison	17	42	22
Lysine (g/d)	0	24	23
Methionine (g/d)	13	0	10
	***** % change vs. control *****		
DM Intake (kg/d)	0.3	-1.9	+0.2
Milk yield (kg/d)	0.3	-0.1	+1.4
Milk fat (%)	1.1	-1.1	+0.8
Milk protein (%)	2.3	0.5	+2.7

*** possible interpretations :

**** the rumen protected products under-delivered their target amino acid ****

**** the expected amino acid profiles of rumen escape proteins have been mis-assessed ****

The intestine. Where need is greatest.



Intestinal bioavailability

The right way for balancing aminoacid
increasing protein efficiency

Sintocol 25 – reduces fatty liver syndrome

Sintolys 50 – increases milk production

Sintomet 55 – increases milk component



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SINTOCOL 25

(Choline Chloride 25% By-Pass)
for the production of animal feed

Description and Characteristics

- Appearance: Free flowing micro-granules, white colour.
- Loss on drying: none
- Solubility: insoluble in water
- Activity: 250.000 mg/kg
- Analysis: high pressure liquid chromatography (HPLC) after mortar education.
- Mesh size: 90% of the product passing through a 500-1200 micron sieve.

Composition

Raw material: Choline chloride 250g
Carriers: silica and hydrogenated vegetable fats (food grade) up to 1000g

Method of preparation

Spray Freezing.

Technical information

Sintocol is a protected, bio-available and by pass form of choline chloride containing 25% of choline chloride with a food grade fatty acid matrix which encapsulates the active principle under form of perfectly flowing microcapsules. Sintocol by pass is used in cattle feedstuffs : in fact when normal choline reaches the rumen , 97% of the product is being degraded (because of microorganisms) into trimethylamine in 15 minutes .

- Sintocol increases fat % in milk .
- Sintocol increases milk production mostly at the beginning of lactation period.
- Sintocol decreases milk somatic cells.
- Sintocol reduce fatty liver syndrome
- Sintocol prevent some dismetabolic diseases during transition period

Use and Biochemical Functions

Choline is essential for oxidizing fattening acids in the liver and for the phosphorylation and movement of the long chain of fatty acids in the blood circulation.

Sintocol acts on the lipid metabolism as a methyl donor and is essential for phospholipid synthesis (essential components cell membrane components).

Choline helps to create the acetylcholine molecule a very important clinical mediator in the nervous system.

Sintocol carries out a liver protection function to prevent fatty liver syndrome in animals fed a high calorific diet

The protection technique used effectively protects the active principle and thus the choline is not broken down by the microorganisms in the rumen and thus Sintocol is recommended for ruminants since it perfectly by-passes rumen and is bio-available in the gut.

In dairy cows Sintocol improves the general health conditions especially in the early lactating stages by protecting the animals from hepatic disorders and facilitating the movement of fatty acids through the blood stream.

Dosage

Dry cows (transition)	30-60 g/head per day
Lactating cows Beef Cattle	50-100 g/head per day for 40 days. 15-30 g day head during fattening period

Standard Packing

25 kg bags.

Stability

12 months from manufacturing date if stored in a cool and dry place.

SINTOLYS 50

(L-Lysine 40% By-Pass –LYS Di MP 20%)
for the production of animal feed

Description and Characteristics

- Appearance: Free flowing micro-granules, cream colour.
- Loss on drying: none
- Solubility: insoluble in water
- Activity: 500.000 mg/kg
- Analysis: high pressure liquid chromatography (HPLC) after mortar education.
- Mesh: microgranules of variable diameter from 200 to 500 micron.
- Density/Mass: 0.68 gr/cm³.

Composition

Raw material: L-Lysine HCL 500g
Carriers: hydrogenated vegetable fats (food grade), maltodextrin up to 1000g

Method of preparation

Spray Freezing.

Technical information

Sintolys is a protected, bio-available and by-pass form of L-lysin.

It contains 50% lysine hcl with a food grade fatty acids matrix which incapsulates the active principle under form of perfectly flowing white microcapsules.

Sintolys by-pass is recommended for ruminants since it passes the rumen (more than 50%) and is bio-available in the gut for having a good amino acids balance. Lysin is one of the most limiting amino acid for high milk production dairy cows during the first lactating period with diets rich in corn silage.

Sintolys improves milk quality (more proteins) and milk production.

Sintolys is particularly indicated during summer season under heat stress conditions when daily feed intake decreases and diets need to be adjusted to preserve milk quality.

Sintolys is important for balancing aminoacids in cow diet according to CNCPS model.

Dosage

Dairy cows	30-60 gm/head per day
Beef-cattle	15-30 gm/head per day

Standard Packing

25 kgs box/each with white polyethylene inside.

Stability

18 months from manufacturing date if stored in a cool and dry place.

SINTOMET 55

(dl-Methionine 55% By-Pass – MET Di MP 35%)
for the production of animal feed

Description and Characteristics

- Appearance: Free flowing micro-granules, white to cream colour.
- Loss on drying: none
- Solubility: insoluble in water
- Activity: 550.000 mg/kg
- Analysis: high pressure liquid chromatography (HPLC) after mortar education.
- Mesh: microgranules of variable diameter from 200 to 500 micron.
- Density/Mass: 0.68 gr/cm³.

Composition

Raw material: dl-Methionine 550g
Carriers: hydrogenated vegetable fats (food grade) up to 1000g

Method of preparation

Spray Freezing.

Technical information

Sintomet is a protected, bio-available and by-pass form of DL-methionine (DL-2-amino-4-(methylthio) Butyric acid feed grade. Sintomet contains 55% DL-methionine with a food grade fatty acid matrix which incapsulates the active principle under the form of perfectly flowing white microcapsules. 90% of the product will go through a 540 micron (30 mesh) sieve. The protection technique used effectively protects the methionine from being broken down by the microorganisms in the rumen and thus Sintomet by-pass is recommended also for ruminants since it perfectly by-pass and is bio-available in the gut. Methionine is the most limiting amino acid for milk production and high yielding milky cows do not have sufficient endogenous quantities. Sintomet increases milk production and improves milk quality (more fat, proteins especially casein). Sintomet improves animal health by increasing its defences (immunostimulation) and also acts as a liver protective factor. Sintomet also acts as a methyl groups donor and actively participates in the most important biosynthesis processes like choline, creatine, adrenaline and so on.

Dosage

Dairy cows	20-50 gm/head per day
Beef-cattle	10-30 gm/head per day

Standard Packing

25 kgs box/each with white polyethylene inside.

Stability

18 months from manufacturing date if stored in a cool and dry place.