



**ADVANCING HEALTH
THROUGH NUTRITION**



PRODUCT BOOK

DIETETIC RANGE



**VETERINARY
GLOBAL
CARE**

HOLISTIC NUTRITIONAL MANAGEMENT

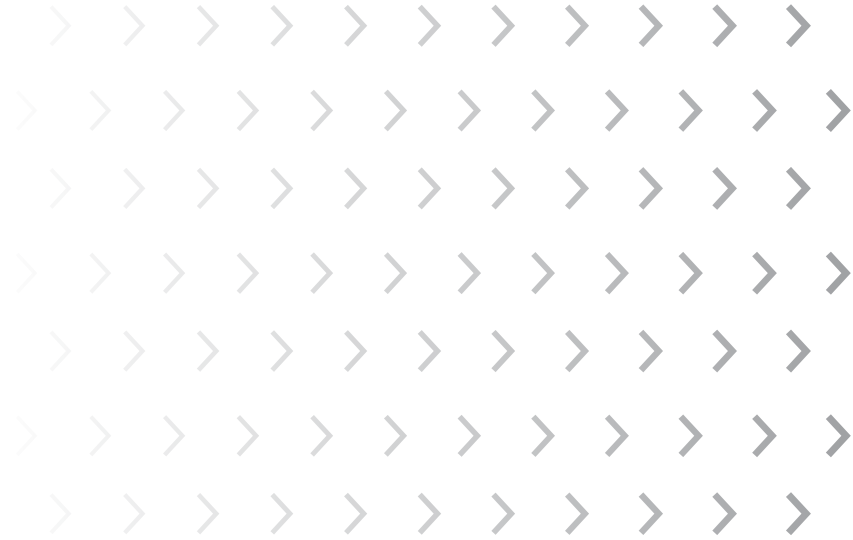
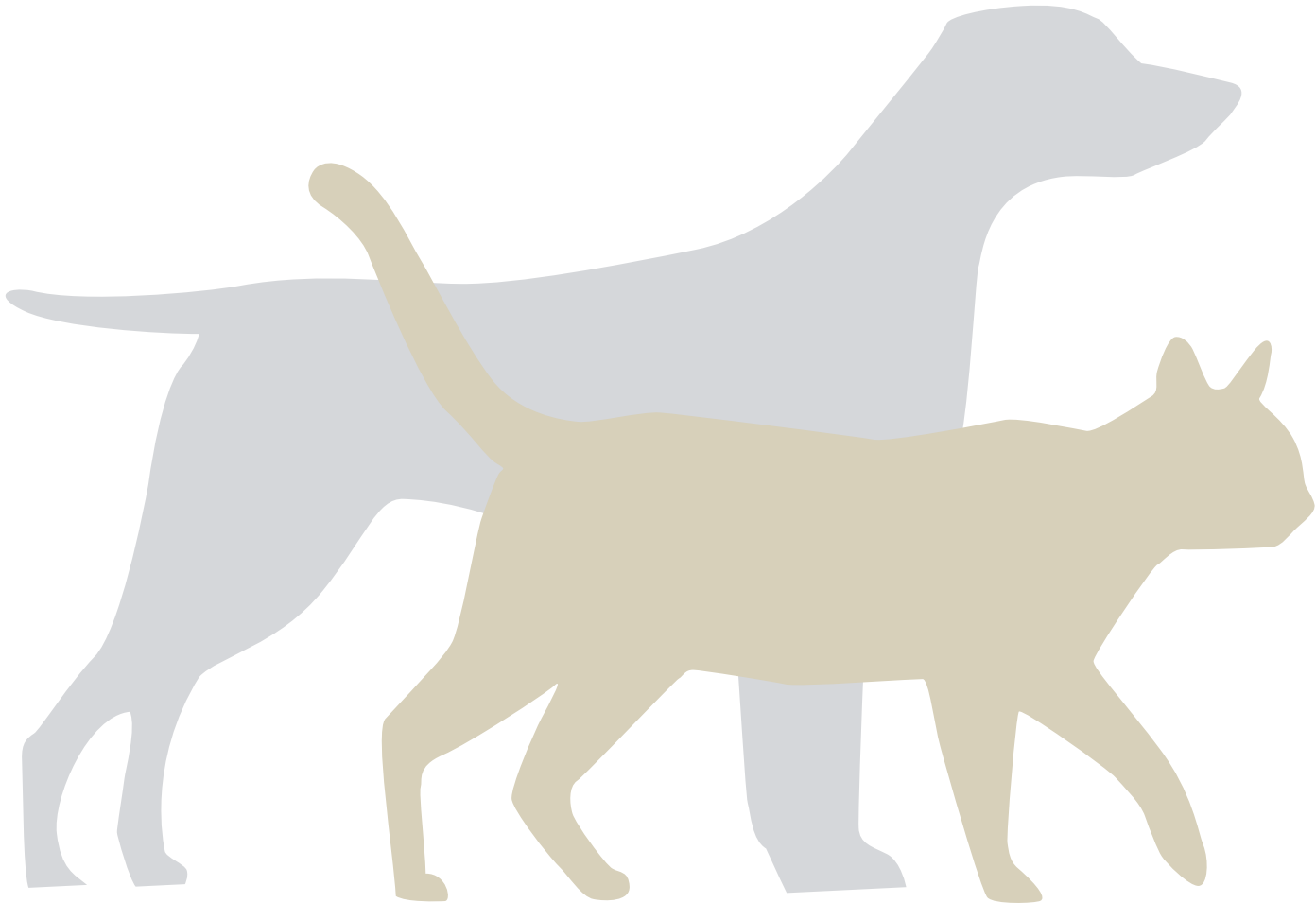


Shaping the future
of animal health

Virbac



TABLE OF CONTENTS



THE DIETETIC RANGE PHILOSOPHY		4
VETERINARY GLOBAL CARE		5
DIETETIC RANGE	> FELINE RANGE.....	8
	> CANINE RANGE	86
SCIENTIFIC STUDIES		146
	> FELINE STUDIES.....	148
	> CANINE STUDIES.....	166



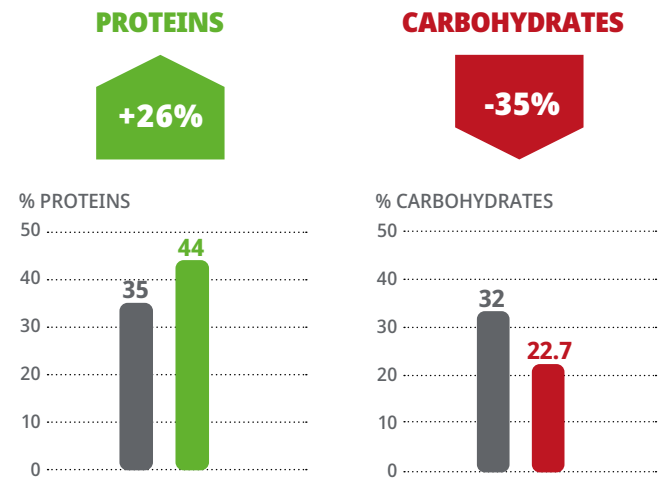
DIETETIC RANGE PHILOSOPHY

A DIFFERENT NUTRITIONAL BALANCE

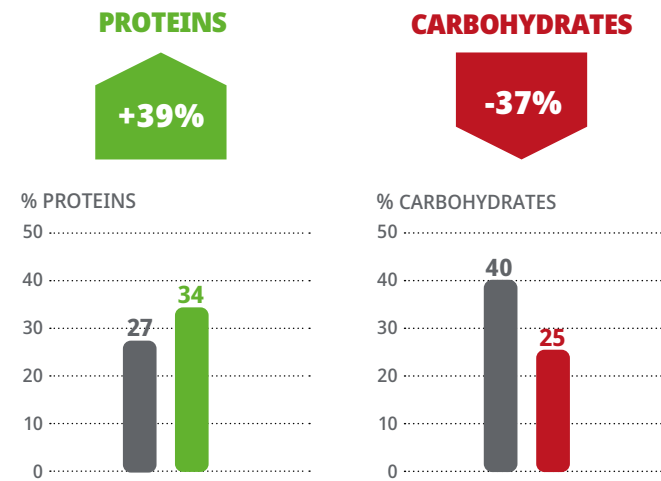
A formulation high in protein and low in carbohydrates (HP-LC) out of which 90% of animal protein origin.



COMPARISON OF DRY DIETETIC CAT FOOD*



COMPARISON OF DRY DIETETIC DOG FOOD*



MARKET AVERAGE

AVERAGE OF VETERINARY HPM ADULT PRODUCTS

* Average protein and carbohydrate amounts in cat and dog dietetic feed for the main diseases excluding kidney disease and allergy/food intolerance,commercialized in Europe. Internal analysis carried out in France, March 2026 - Comparison data collected via official product websites.

HOLISTIC NUTRITIONAL MANAGEMENT

Dogs and cats are carnivores regardless of their health status. The VETERINARY HPM® Dietetic formulas provide comprehensive nutritional management for dogs and cats with a health condition. Our clinical diets go beyond the management of a specific health condition thanks to our unique VETERINARY GLOBAL CARE approach.



1 MANAGEMENT OF PRIMARY CONDITION

Every product is adapted to the nutritional management of a specific health condition.

2 SUPPORT OF CONCURRENT CONDITIONS

A health condition is frequently associated to disorders impacting other organs or functions. This is why most of our products also allow the nutritional management of concurrent conditions.

3 RESTORATION OF BODY COMPOSITION

The HP-LC (High Protein - Low Carbohydrate) formulation contributes to a balanced lean mass/fat mass ratio.

4 ADDITIONAL HEALTH BENEFITS

Every product helps to maintain the general health of the animal and goes beyond the management of a specific health condition.



DIETETIC RANGE OFFER

CAT

15 FORMULAS OF 6 DIFFERENT SEGMENTS

UROLOGY				WEIGHT		GASTRO		DERMATO	ALLERGY	KIDNEY & JOINT				
1	2	3	WET	1	2	1	WET	1	2	1	2	3	WET	WET
STRUVITE DISSOLUTION	DISSOLUTION & PREVENTION	URINARY WIB	DISSOLUTION & PREVENTION	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	DIGESTIVE SUPPORT	DIGESTIVE SUPPORT	DERMATOLOGY SUPPORT	HYPOALLERGY HYDROLYSED FISH	EARLY KIDNEY & JOINT	KIDNEY & JOINT	ADVANCED KIDNEY & JOINT	EARLY KIDNEY & JOINT	KIDNEY & JOINT

DOG

9 PRODUCTS OF 7 DIFFERENT SEGMENTS

WEIGHT		JOINT	GASTRO		DERMATO	ALLERGY	KIDNEY	UROLOGY
1	2	1	1	WET	1	2	1	1
WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	JOINT & MOBILITY	DIGESTIVE SUPPORT	DIGESTIVE SUPPORT	DERMATOLOGY SUPPORT	HYPOALLERGY HYDROLYSED FISH	KIDNEY SUPPORT	DISSOLUTION & PREVENTION



EFFICACY PROVEN BY VIRBAC
WITH ALREADY 22 STUDIES!

OBESITY & DIABETES MELLITUS

2 Programes for Overweight Management for cats and dogs also adapted to the management of diabetes mellitus.
100% of dogs and cats have reached their target body weight.
Mean weight loss ⁽¹⁾⁽²⁾/week:
1.7% for cats
2.2% for dogs

GASTRO & CONVALESCENCE

86% of dogs have improved their gastrointestinal condition after 1 week of mixed wet & dry feeding.⁽⁴⁾
93% of cats have improved their flatulence, fecal score and volume after two weeks.⁽⁵⁾

JOINT & MOBILITY DOG

Improvement of all mobility parameters after 8 weeks.⁽⁷⁾
78% of satisfied dog owners.

KIDNEY & JOINT CAT

Osteoarthritis management.
Gradual management of chronic kidney disease by stage.
Highly palatable wet & dry food.

UROLOGY

3 dry products for cat and 1 dry product for dog that contribute to the management of major urinary diseases.
42% struvite stones are dissolved after 5 days in an in vitro trial with Cat Urology U1 – Struvite dissolution.⁽³⁾
One wet diet for cats, wet Urology Cat, chunks in gravy, to be used alone or with our three dry urology cat products.

ALLERGY

Elimination diet thanks to the use of an hydrolised protein source: fish. Our products have an average peptide molecular weight of 1.40kDa.

DERMATOLOGY

Visible results as from the 2nd week.⁽⁴⁾⁽⁵⁾
95% of cats, **95%** of dogs, have improved their skin & coat condition at the end of the study.⁽⁵⁾⁽⁶⁾

KIDNEY DOG

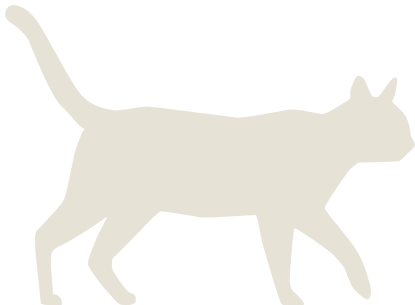
Adapted protein level (**20.5%**).
Proven higher palatability at d14 versus main competitors.⁽⁸⁾

1. André A., Leriche I., Chaix G., Thorin C., Nguyen P. Insulin sensitivity and body composition before and after rapid weight loss in obese dogs fed a high-protein medium-carbohydrate diet. Submitted to J Anim Physiol & Anim Nutr 2016.
2. André A., Leriche I., Chaix G., Sauvinet V., Thorin C., Nguyen P. Weight loss with a high protein diet allows the recovery of optimal body composition and improves insulin sensitivity in obese cats. ESVN Congress, Berlin, Germany, 15-17 Sept 2016.
3. Formankova D., Leriche I., Iben C. Effect of new high protein - low carbohydrate diets on urinary parameters in cats and in vitro struvite dissolution. ESVCN Congress, Toulouse, France, 17-19 Sept 2015
4. Internal study on 42 dogs with at least 3 abnormal digestive parameters, fed exclusively with Veterinary HPM G1 Dry and Veterinary HPM G Wet, 2024
5. Leriche I., Navarro C., Fournel S., Nicolas C., Gely MO. Assessment of a new high protein – high fatty acid diet in dogs with chronic skin and coat disorders. SEVC Congress, Granada, Spain, 20-22 Oct 2016.
6. Leriche I., Navarro C., Fournel S., Nicolas C., Gely MO. Assessment of a new high protein – high fatty acid diet in cats with chronic skin and coat disorders. SEVC Congress, Granada, Spain, 20-22 Oct 2016.
7. Nicolas C., Fournel S., Navarro C., Leriche I. Assessment of a new high protein – high essential fatty acid diet in dogs with chronic joint disorders. AHVM Congress, Valencia, Spain, 26-27 Sept 2016.
8. A. Brugué et al.. Comparative assessment of the palatability of a new renal diet in fussy canine eaters. Voorjaarsdagen, 2017



FELINE RANGE



 FELINE DIETETIC RANGE	
TABLE OF CONTENTS	CAT
KEY INFORMATION	12
HEALTH CONDITIONS & USE	14
UROLOGY	16
WEIGHT	32
GASTRO	42
DERMATO	50
ALLERGY	56
KIDNEY & JOINT	62
NUTRITIONAL INFORMATION	82
 	

KEY INFORMATION



	UROLOGY STRUVITE DISSOLUTION	UROLOGY DISSOLUTION & PREVENTION	UROLOGY URINARY WIB	UROLOGY WET DISSOLUTION PREVENTION	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL
FELINE PRODUCT VISUAL						
Protein (% as fed)	44	44	44	11	44	44
Protein to calorie ratio (g/Mcal)	111	118	118	118	133	129
Carbohydrate (NFE) (% as fed)	23	23	23	2,1	18	18.5
Metabolisable Energy (kcal/100g)	397	374	374	93	331	342
Management of primary condition Indications* Other use	• Dissolution of struvites • Reduction of oxalate recurrence	• Dissolution of struvites • Reduction of oxalate recurrence • Reduction of struvite recurrence	• Reduction of struvite recurrence • Reduction of oxalate recurrence • Feline Idiopathic Cystitis	• Dissolution of struvites • Reduction of struvite recurrence • Reduction of oxalate recurrence • Feline Idiopathic Cystitis	• Reduction of excessive body weight • Diabetes mellitus if concurrent obesity • Responsive-fibre colitis • Hyperlipidemia • Constipation	• Reduction of excessive body weight if overweight <30% • Stabilisation of body weight after weight loss • Fibre-responsive colitis • Diabetes melitus if no concurrent obesity • Constipation
Bag Format	1.5 kg - 3 kg	1.5 kg - 3 kg - 7 kg	1.5 kg - 3 kg	12x85g Chunks in gravy	1.5 kg - 3 kg - 7 kg	1.5 kg - 3 kg - 7 kg

*Commission regulation (EU) 2020/354

KEY INFORMATION



	DIGESTIVE SUPPORT	WET DIGESTIVE SUPPORT	DERMATOLOGY SUPPORT	HYPOALLERGY HYDROLYSED FISH
FELINE PRODUCT VISUAL				
Protein (% as fed)	44	14	44	31
Protein to calorie ratio (g/Mcal)	105	103	111	80
Carbohydrate (NFE) (% as fed)	17.5	2.3	19.5	36
Metabolisable Energy (kcal/100g)	418	136	395	389
Management of primary condition Indications* Other use	• Digestive disorders with maldigestion • Digestive disorders with malabsorption • Chronic Exocrine Pancreatic Insufficiency • Nutritional restoration, convalescence • Megacolon • Recovery • Digestive surgery	• Digestive disorders with maldigestion • Digestive disorders with malabsorption • Chronic Exocrine Pancreatic Insufficiency • Nutritional restoration, convalescence • Megacolon • Recovery • Digestive surgery	• Dermatitis • Pruritus • Excessive hair loss	• Adverse food reaction • Elimination trial
Bag Format	1.5 kg - 3 kg	12x85g loaf	3 kg	3 kg

*Commission regulation (EU) 2020/354

	EARLY KIDNEY & JOINT	KIDNEY & JOINT	ADVANCED KIDNEY & JOINT	WET EARLY KIDNEY & JOINT	WET KIDNEY & JOINT
FELINE PRODUCT VISUAL					
Protein (% as fed)	38	35	30	12	11
Protein to calorie ratio (g/Mcal)	99	85	72	121	89
Carbohydrate (NFE) (% as fed)	26	28,5	33	1,2	1,2
Metabolisable Energy (kcal/100g)	384	412	415	99	124
Management of primary condition Indications* Other use	• Support of the metabolism of joints in case of osteoarthritis • Support of the renal function - stage 1 of IRIS classification	• Support of the metabolism of joints in case of osteoarthritis • Support of the renal function in case of chronic renal insufficiency - stage 2 of IRIS classification • Chronic hepatic disorders	• Support of the metabolism of joints in case of osteoarthritis • Support of the renal function in case of chronic renal - stages 3 & 4 of IRIS classification • Chronic hepatic disorders	• Support of the metabolism of joints in case of osteoarthritis • Support of the renal function - stage 1 of IRIS classification	• Support of the metabolism of joints in case of osteoarthritis • Support of the renal function in case of chronic renal - stages 2, 3 & 4 of IRIS classification • Chronic hepatic disorders
Bag Format	1.5 kg - 3 kg	1.5 kg - 3 kg	400g - 1.5 kg - 3 kg	12x85g Chunks in gravy	12x85g loaf/mousse

*Commission regulation (EU) 2020/354

HEALTH CONDITION & USE



	STRUVITE DISSOLUTION	DISSOLUTION & PREVENTION	URINARY WIB	WET DISSOLUTION & PREVENTION	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	DIGESTIVE SUPPORT	WET DIGESTIVE SUPPORT
Chronic hepatic insufficiency								
Chronic pancreatic insufficiency								
Chronic renal insufficiency								
Chylothorax								
Colitis answering a fibre-enhanced diet								
Constipation								
Convalescence								
Cystitis (FIC)								
Dermatitis								
Dermatosis								
Diabetes mellitus with associated obesity								
Diabetes mellitus without associated obesity								
Diarrhoea								
Digestive surgery								
Food allergy/intolerance								
Hair loss								
Hyperlipaemia								
Inflammatory bowel disease								
Kidney dysfunction (IRIS stage I)								
Maldigestion malabsorption								
Megacolon								
Obesity (>30%)								
Orthopaedic surgery of the pelvis								
Osteoarthritis								
Overweight (<30%)								
Oxalate urolith prevention								
Small intestinal bacteria overgrowth								
Struvite urolith dissolution								
Struvite urolith prevention								
Weight stabilisation/ control after loss								

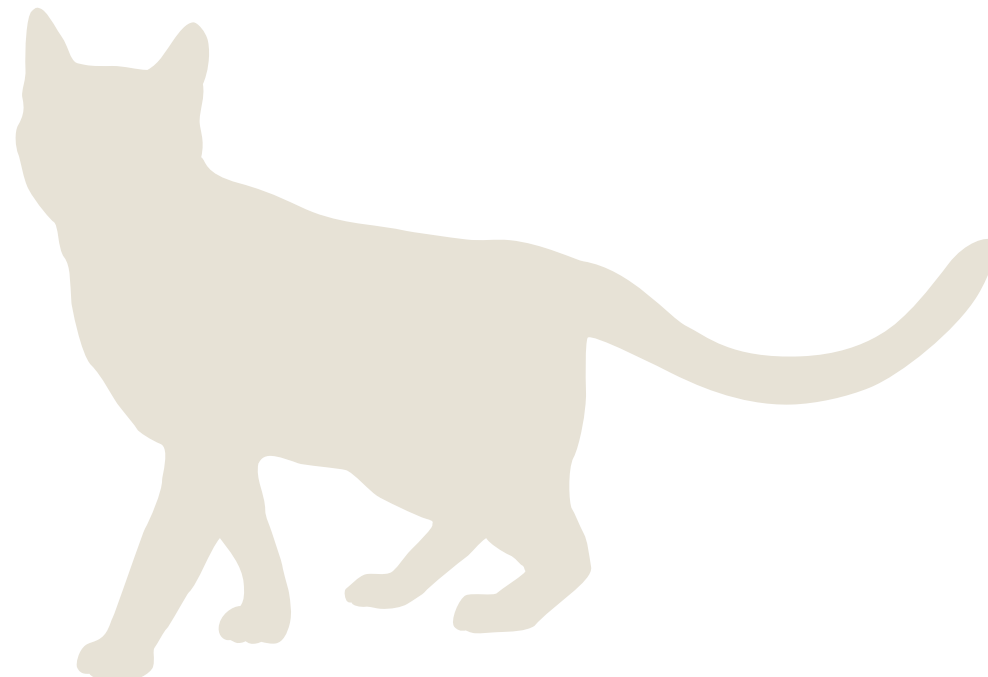
DIETETIC FELINE RANGE CORRESPONDENCE



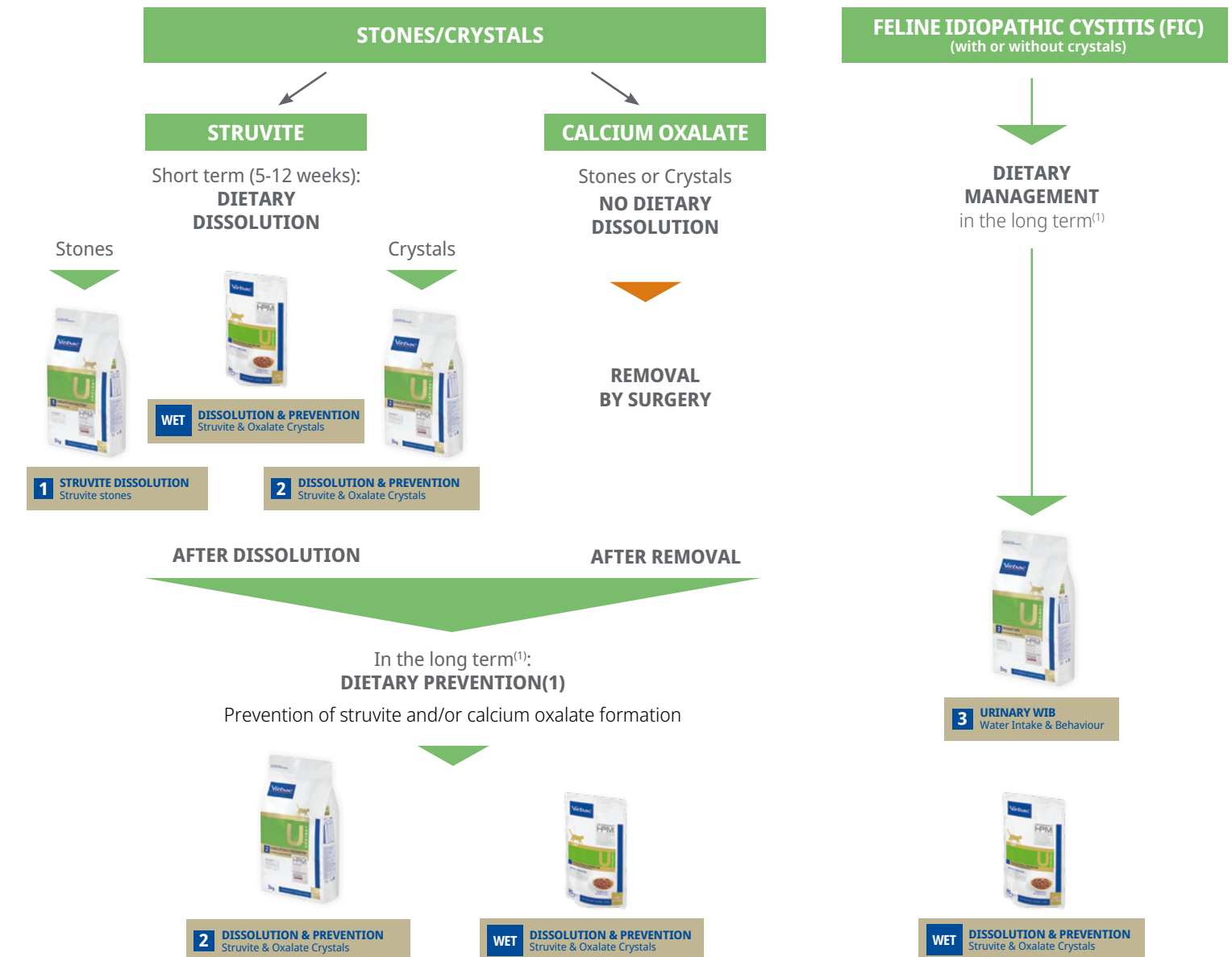
	DERMATOLOGY SUPPORT	HYPOALLERGY FISH	EARLY KIDNEY & JOINT	KIDNEY & JOINT	ADVANCED KIDNEY & JOINT	WET EARLY KIDNEY & JOINT	WET KIDNEY & JOINT
Chronic hepatic insufficiency							
Chronic pancreatic insufficiency							
Chronic renal insufficiency							
Chylothorax							
Colitis answering a fibre-enhanced diet							
Constipation							
Convalescence							
Cystitis (fic)							
Dermatitis							
Dermatosis							
Diabetes mellitus with associated obesity							
Diabetes mellitus without associated obesity							
Diarrhoea							
Digestive surgery							
Food allergy/intolerance							
Hair loss							
Hyperlipaemia							
Inflammatory bowel disease							
Kidney dysfunction (IRIS stage I)							
Maldigestion malabsorption							
Megacolon							
Obesity (>30%)							
Orthopaedic surgery of the pelvis							
Osteoarthritis							
Overweight (<30%)							
Oxalate urolith prevention							
Small intestinal bacteria overgrowth							
Struvite urolith dissolution							
Struvite urolith prevention							
Weight stabilisation/ control after loss							

U

UROLOGY



FELINE LOWER URINARY TRACT DISEASES (FLUTD)



(1) A veterinarian's opinion should be sought before use.



AVAILABLE FORMATS

- 1.5 kg, 3 kg

DIETETIC INDICATIONS*

- Dissolution of struvite stones (5 to 12 weeks).

OTHER USE

- Reduction of Calcium oxalate formation.

CONTRAINDICATIONS

- Growth.
- Gestation and lactation.
- Chronic kidney disease (CKD).
- Cardiac insufficiency.

* Commission regulation (EU) 2020/354

UROLOGY

1 STRUVITE DISSOLUTION
Struvite stones

KEY BENEFITS & CHARACTERISTICS

> Increases Water Intake

High amounts of protein and sodium stimulate water intake, help to increase urine volume and micturition frequency.

> Low Struvite RSS (<1)

The formulation induces urine under-saturated for struvites, with struvite RSS* < 1, to promote rapid* dissolution of struvite stones^{(1) (2)}.

*RSS: Relative Super Saturation index, in comparison to Veterinary HPM U2 cat.

> High EPA+DHA (omega-3)

Addition of fish oil allows to achieve high amount of omega-3, especially EPA+DHA, and helps limit low urinary tract (LUT) inflammation.

> Urine Acidification (pH: 6.0-6.5)*

Urinary pH between 6.0 – 6.5 allows dissolution of struvites without increasing the risk of oxalate formation⁽²⁾.

> Phosphorus Binding

Added chitosan, as phosphorus binder, helps reduce bioavailability of phosphorus and thus decrease its urinary excretion.⁽³⁾

ADDITIONAL BENEFITS & CHARACTERISTICS

> Low Mineral Concentration*

Low contents of Calcium, Phosphorus and Magnesium help limit their urinary excretion and the risk of struvite and oxalate formation.

> Addition of Oxalate Inhibitor

Added Potassium citrate, as specific inhibitor, helps limit the formation of Calcium oxalate crystals.

> Oxalate RSS <12

The formulation induces urine metastable for calcium oxalates, with Oxalate RSS < 12⁽²⁾.

> High Palatability

Richness in animal protein and fat guarantees high palatability and ensures maximum compliance.

ANALYTICAL CONSTITUENTS
% as fed

• Moisture	5.5
• Protein	44
• Animal to vegetal protein ratio	90/10
• Fat	16
• Minerals	7.5
• Crude Fibre	4
• NFE*	23
• Starch	15
• Calcium	0.65
• Phosphorus	0.65
• Sodium	1.3
• Potassium	0.7
• Magnesium	0.08
• Chloride	1.8
• Sulphur	0.7
• Methionine + Cystine	1.5
• Omega-6 fatty acids	2.5
• Omega-3 fatty acids	1
• EPA+DHA	0.3

KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	397
• ME** measured in vivo (kcal/100g)	385
• Protein digestibility (in vivo; %)	87
• Fat digestibility (in vivo; %)	96
• Energy from protein (%)	42
• Energy from fat (%)	37
• Energy from NFE (%)	21
• Protein to Calorie ratio (g/Mcal)	111

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 23%

HIGH PROTEIN 44%

of ANIMAL ORIGIN 90%

COMPOSITION

Dehydrated pork and poultry proteins, potato starch, hydrolysed pork and poultry proteins, animal fats, minerals, peas, faba bean hulls, rice, beet pulp, linseed, brewers yeast, fish oil, lignocellulose, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, hydrolysed crustacean (source of chitosan), chondroitin sulfate, *Lactobacillus acidophilus*.

SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• Chitosan	800 mg/kg
• L-carnitine	540 mg/kg
• Potassium Citrate	0.3%

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Underweight
2	20	20	25
3	30	35	35
4	40	45	50
5	50	55	60
6	60	65	75
7	70	75	85
8	75	85	95
9	85	100	110
10	95	110	120

The daily ration is based on the cat's current bodyweight, and must be adjusted every month.

*Adult neutered indoor cat with optimal body weight



14 DAYS MEAN TIME OF STRUVITE DISSOLUTION ⁽¹⁾

<1 STRUVITE RSS ⁽²⁾

14% REDUCTION OF THE PHOSPHORUS APPARENT DIGESTIBILITY BY ADDING CHITOSAN ⁽³⁾

OUR STUDIES

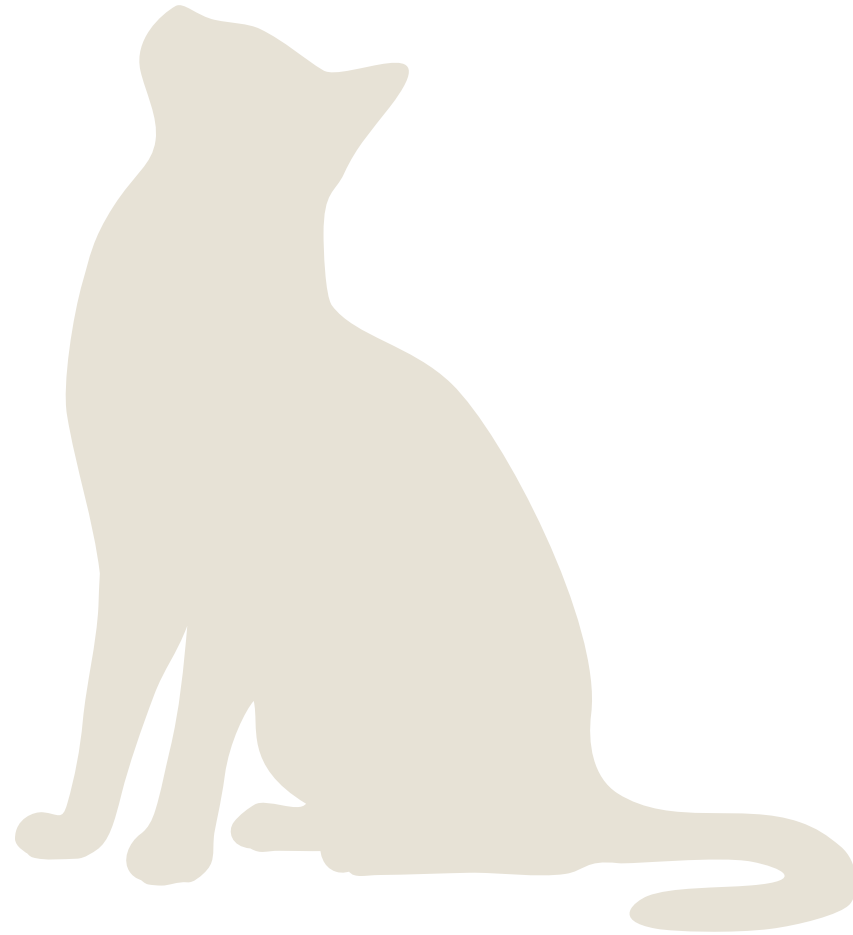
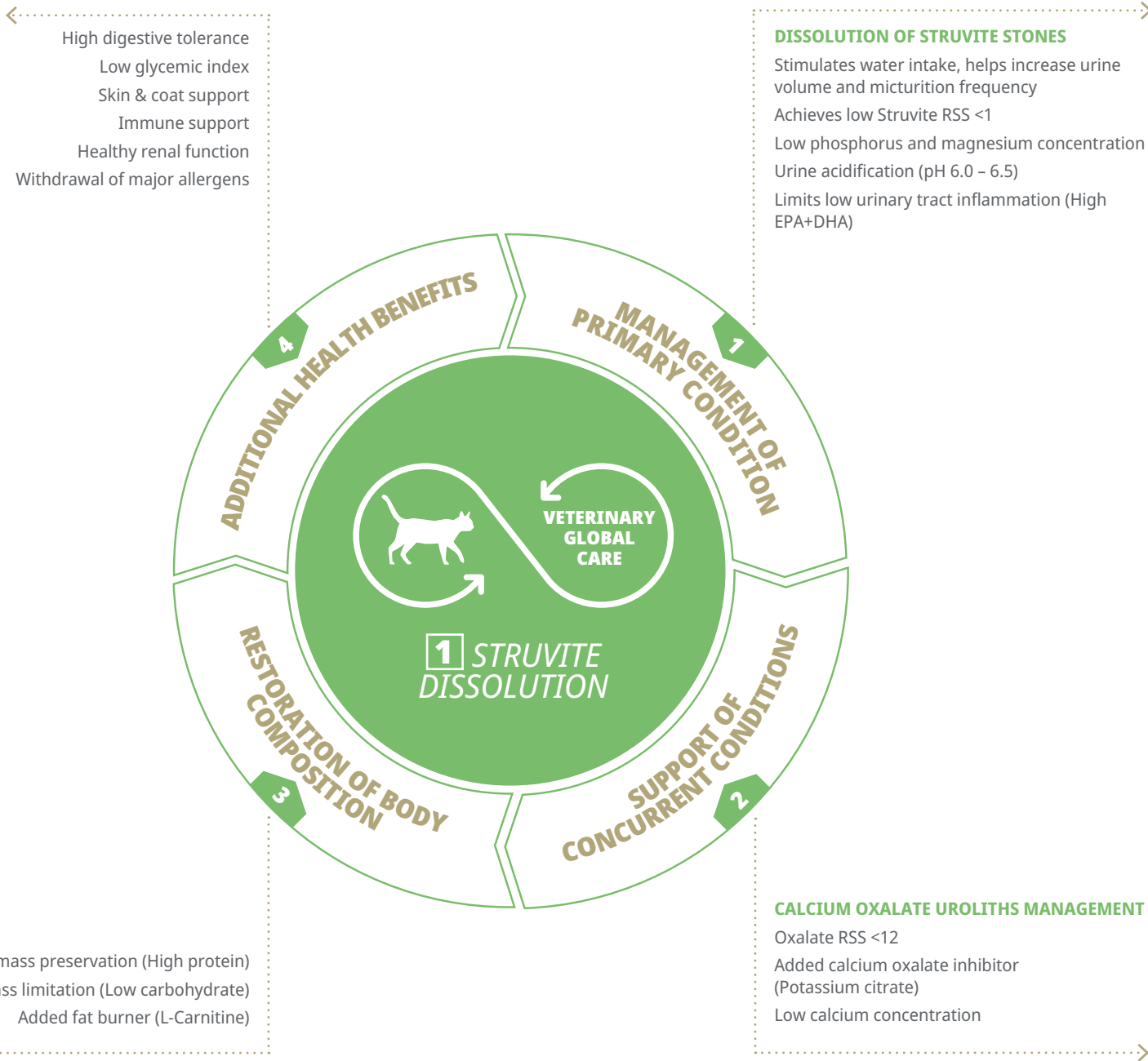
Page 152

Page 150

Page 148



(1) G. Chaix et al. Efficacy and safety two new high protein - low carbohydrate dry diet in sterile feline struvite urolithiasis. ECVIM Congress 2017.
(2) D. Formankova et al. Effect of a new high protein - low carbohydrate diets on urinary parameters in cats in vitro struvite dissolution. ESVCN Congress 2015.
(3) I. Leriche et al. Effect of chitosan supplementation in a dry maintenance diet on phosphorus apparent digestibility in cats. SEVC Congress 2015.





AVAILABLE FORMATS

- 1.5 kg, 3 kg, 7 kg

DIETETIC INDICATIONS*

- Dissolution of struvite stones.
- Reduction of struvite stone recurrence.
- Reduction of oxalate stones formation

CONTRAINDICATIONS

- Growth.
- Gestation and lactation.
- Chronic kidney disease (CKD).
- Cardiac insufficiency.

* Commission regulation (EU) 2020/354

KEY BENEFITS & CHARACTERISTICS

> Increases Water Intake

High amounts of protein and sodium stimulate water intake, increase urine volume and micturition frequency.

> Low Struvite RSS (<1)

The formulation induces urine under-saturated for struvites, with struvite RSS** <1, to promote dissolution of existing struvite crystals and prevent formation of new ones ⁽¹⁾.
**RSS: Relative Super Saturation index.

> Optimizes Urinary pH*

Urinary pH between 6.0 – 6.5 allows to prevent both struvite and oxalate crystals formation ⁽¹⁾.

> Phosphorus Binding

Added chitosan, as phosphorus binder, helps reduce bioavailability of phosphorus and decrease its urinary excretion ⁽²⁾.

> Body Weight Control

The moderate energy density of the diet and the adapted feeding rations help maintain optimal body weight.

ADDITIONAL BENEFITS & CHARACTERISTICS

> Low Mineral Concentration*

Low contents of Calcium, Phosphorus and Magnesium help limit their urinary excretion and the risk of struvite and oxalate formation.

> Addition of Oxalate Inhibitor

Added Potassium citrate, as specific inhibitor, helps limit the formation of Calcium oxalate crystals.

> Oxalate RSS <12*

The formulation induces urine metastable for calcium oxalates, with Oxalate RSS < 12 ⁽¹⁾.

> High Palatability

Richness in animal protein and fat guarantees high palatability and ensures maximum compliance in the long term.

ANALYTICAL CONSTITUENTS
% as fed

Moisture	5.5
Protein	44
Animal to vegetal protein ratio	90/10
Fat	13.5
Minerals	7.5
Crude Fibre	6.5
NFE*	23
Starch	15
Calcium	0.7
Phosphorus	0.7
Sodium	1.1
Potassium	0.7
Magnesium	0.08
Chloride	1.4
Sulphur	0.7
Methionine + Cystine	1.5
Omega-6 fatty acids	2.2
Omega-3 fatty acids	0.7

KEY NUTRIENT VALUES

ME** calculated (kcal/100g)***	374
ME** measured in vivo (kcal/100g)	364
Protein digestibility (in vivo; %)	86
Fat digestibility (in vivo; %)	91.5
Energy from protein (%)	44
Energy from fat (%)	33
Energy from NFE (%)	23
Protein to Calorie ratio (g/Mcal)	118

* Nitrogen Free Extract
** metabolisable energy
*** calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 23%

HIGH PROTEIN 44%

of ANIMAL ORIGIN 90%

COMPOSITION

Dehydrated pork and poultry proteins, potato starch, hydrolysed pork and poultry proteins, animal fats, minerals, faba bean hulls, peas, lignocellulose, rice, beet pulp, linseed, brewers yeast, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, hydrolysed crustacean (source of chitosan), chondroitin sulfate, *Lactobacillus acidophilus*.

SPECIFIC INGREDIENTS/ADDITIVES

Bentonite	5 g/kg
Killed Lactobacilli	7 mg/kg
Chitosan	800 mg/kg
L-carnitine	540 mg/kg
Potassium Citrate	0.3%

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Overweight Soft weight loss	Normal*	Underweight
2	20	25	25
3	30	35	40
4	40	45	50
5	50	60	65
6	60	70	75
7	70	80	90
8	80	90	105
9	90	105	115
10	105	115	130

The daily ration is based on the cat's current bodyweight, and must be adjusted every month.

*Adult neutered indoor cat with optimal body weight



11,4 DAYS MEAN TIME OF DISAPPEARANCE OF AT LEAST ONE SIGN ⁽¹⁾
(Urinary clinical or ultrasound signs, or no crystal in urinalysis)

<1 STRUVITE RSS ⁽²⁾

14% REDUCTION OF THE PHOSPHORUS APPARENT DIGESTIBILITY BY ADDING CHITOSAN ⁽³⁾

OUR STUDIES

Page 152

Page 150

Page 148



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(3) I. Leriche et al. Effect of chitosan supplementation in a dry maintenance diet on phosphorus apparent digestibility in cats. SEVC Congress 2015.

High digestive tolerance
Low glycemic index
Skin & Coat support
Immune support
Healthy renal function
Withdrawal of major allergens



**DISSOLUTION OF STRUVITE STONES /
REDUCTION OF STRUVITE & OXALATE
FORMATION**
Stimulates water intake, helps increase urine
volume and micturition frequency
Achieves low struvite RSS <1 and
Oxalate RSS <12
Low calcium, phosphorus, magnesium
concentration
Urine acidification (pH 6.0 – 6.5)
Addition of calcium oxalate inhibitor

OVERWEIGHT MANAGEMENT
Moderate energy density
Adapted feeding rations (Soft weight loss program)

Lean mass preservation (High protein)
Fat mass limitation (Low carbohydrate)
Added fat burner (L-Carnitine)





AVAILABLE FORMATS

- 1.5 kg, 3 kg

DIETETIC INDICATIONS*

- Reduction of struvite stone recurrence.
- Reduction of oxalate stones formation.

OTHER USE

- Feline Idiopathic Cystitis (FIC).

CONTRAINDICATIONS

- Growth.
- Gestation and lactation.
- Chronic kidney disease (CKD).
- Cardiac insufficiency.

* Commission regulation (EU) 2020/354

KEY BENEFITS & CHARACTERISTICS

>Increases Water Intake

High amounts of protein and sodium stimulate water intake, increase urine volume ⁽¹⁾ and micturition frequency.

> Behaviour Plus Complex

The diet includes a green tea concentrate, which is known to help cats to cope with stressful situations ⁽²⁾.

> Low Struvite RSS (<2.5)

The formulation induces urine under-saturated for struvites, with struvite RSS* < 2.5.

*RSS: Relative Super Saturation index.

> High EPA+DHA (omega-3)

Addition of fish oil allows to achieve high amount of omega-3, especially EPA+DHA, and helps limit lower urinary tract (LUT) inflammation.

> Body Weight Control

Moderate energy density and adapted feeding rations help maintain ideal body weight.

ADDITIONAL BENEFITS & CHARACTERISTICS

> Low Mineral Concentration*

Low contents of Calcium, Phosphorus and Magnesium help limit their urinary excretion and the risk of struvite and oxalate crystals formation.

> Phosphorus Binding

Added chitosan, as phosphorus binder, helps reduce bioavailability of phosphorus and decrease its excretion into the urine ⁽³⁾.

> Addition of Oxalate Inhibitor

Added Potassium citrate, as specific inhibitor, helps limit the formation of Calcium oxalate crystals.

> Oxalate RSS < 12*

The formulation induces urine metastable for calcium oxalates, with Oxalate RSS < 12.

> Optimizes Urinary pH*

Urinary pH between 6.0 – 6.5 allows to prevent struvite and oxalate crystals formation.

ANALYTICAL CONSTITUENTS
% as fed

• Moisture	5.5
• Protein	44
• Animal to vegetal protein ratio	90/10
• Fat	13.5
• Minerals	7.5
• Crude Fibre	6.5
• NFE*	23
• Starch	15
• Calcium	0.7
• Phosphorus	0.7
• Sodium	1.1
• Potassium	0.7
• Magnesium	0.08
• Chloride	1.4
• Sulphur	0.7
• Methionine + Cystine	1.5
• Omega-6 fatty acids	2.2
• Omega-3 fatty acids	1.1
• EPA+DHA	0.4

KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	374
• ME** measured in vivo (kcal/100g)	364
• Protein digestibility (in vivo; %)	86
• Fat digestibility (in vivo; %)	91.5
• Energy from protein (%)	44
• Energy from fat (%)	33
• Energy from NFE (%)	23
• Protein to Calorie ratio (g/Mcal)	118

* Nitrogen Free Extract
** metabolisable energy
*** calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 23%

HIGH PROTEIN 44%

of ANIMAL ORIGIN 90%

COMPOSITION

Dehydrated pork and poultry proteins, potato starch, hydrolysed pork and poultry proteins, minerals, faba bean hulls, peas, animal fats, lignocellulose, rice, beet pulp, linseed, brewers yeast, fish oil, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, dried green tea concentrate, hydrolysed crustacean (source of chitosan), chondroitin sulfate, *Lactobacillus acidophilus*.

SPECIFIC INGREDIENTS/ADDITIVES

• Green tea concentrate	0.26%
• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• Chitosan	800 mg/kg
• L-carnitine	540 mg/kg
• Potassium Citrate	0.3%

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Overweight Soft weight loss	Normal*	Underweight
2	20	25	25
3	30	35	40
4	40	45	50
5	50	60	65
6	60	70	75
7	70	80	90
8	80	90	105
9	90	105	115
10	105	115	130

The daily ration is based on the cat's current bodyweight, and must be adjusted every month.

*Adult neutered indoor cat with optimal body weight



25% WATER INTAKE (in ml/kg BW/day)
SIGNIFICANTLY INCREASED VS A REFERENCE
DRY DIET FOR STRUVITE PREVENTION ⁽¹⁾

OUR STUDIES

👉 Page 154

30% URINARY VOLUME (in ml/kg BW/day)
SIGNIFICANTLY INCREASED VS A REFERENCE
DRY DIET FOR STRUVITE PREVENTION ⁽¹⁾

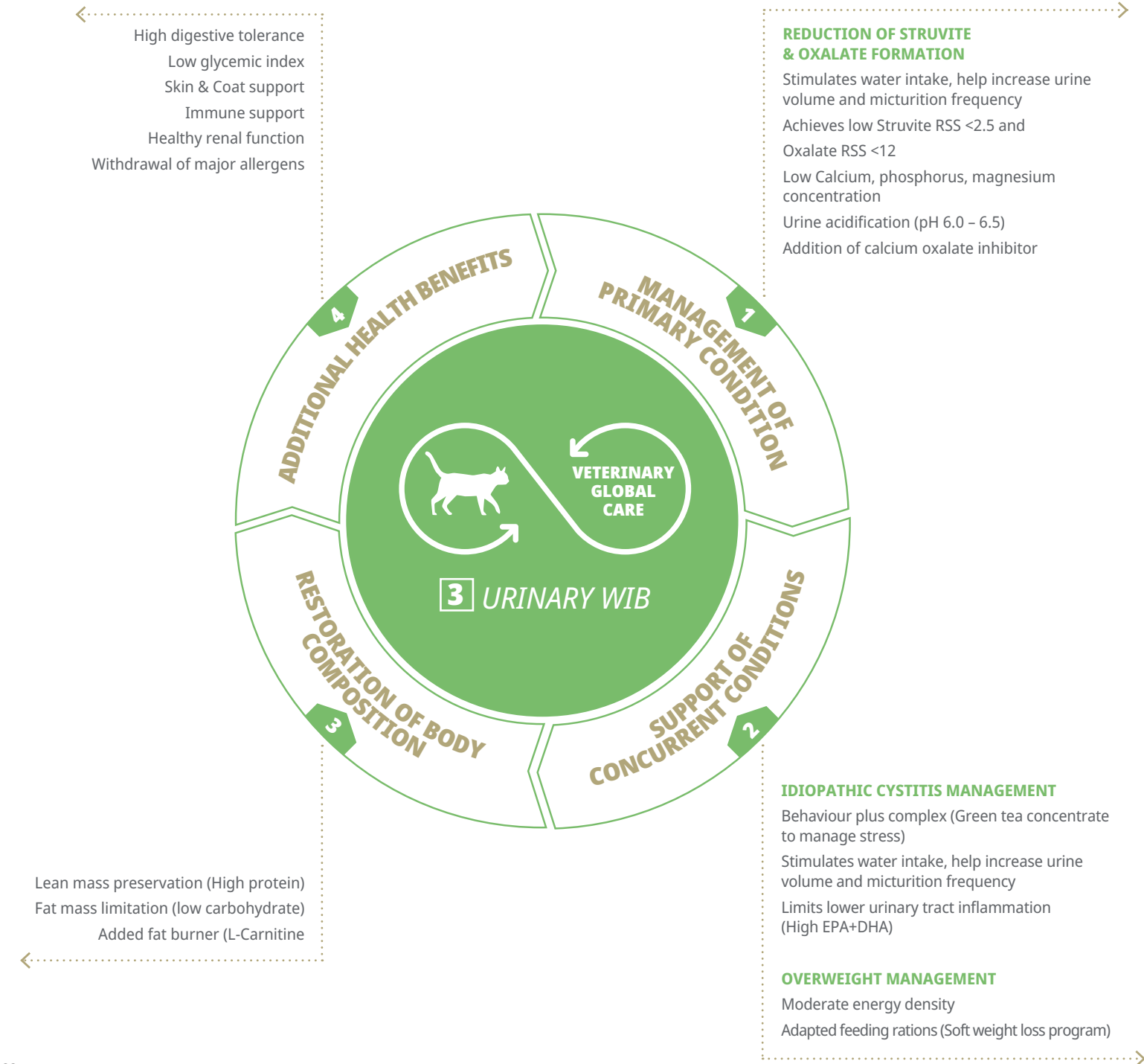
👉 Page 154

14% REDUCTION OF THE PHOSPHORUS APPARENT
DIGESTIBILITY BY ADDING CHITOSAN ⁽²⁾

👉 Page 148



(1) G. Chaix et al Assessment of water intake and urine volume in cats fed a new high-protein high-sodium dry diet. ISFM Congress 2017.
(2) V. Dramard et al. Clinical efficacy of l-theanine tablets to reduce anxiety-related emotional disorders in cats: a pilot open-label clinical trial. 6th IVBM, Italy 2007.
(3) I. Leriche et al. Effect of chitosan supplementation in a dry maintenance diet on phosphorus apparent digestibility in cats. SEVC Congress 2015.





➤ AVAILABLE FORMATS

- 12 x 85g pouches box

➤ DIETETIC INDICATIONS*

- Dissolution of struvite stones.
- Reduction of struvite stone recurrence.
- Reduction of oxalate stones formation.

➤ CONTRAINDICATIONS

- Growth.
- Gestation and lactation.
- Chronic kidney disease (CKD).
- Cardiac insufficiency.

* Commission regulation (EU) 2020/354

➤ KEY BENEFITS & CHARACTERISTICS

> Supports hydration

The high water content of the diet naturally increases total water intake (food water + drinking water) for optimal water turnover in the body.

> Low Struvite RSS (<1)

The formulation induces urine under-saturated for struvites, with struvite relative supersaturation (RSS) index < 1, to promote the dissolution of existing struvite crystals and prevent the formation of new ones.

> Optimizes Urinary pH*

Urinary pH between 6.0 and 6.5 allows to prevent the formation of both struvite and calcium oxalate crystals.

> Optimal Body Weight

The low energy content, the energy balance (Protein: Fat:Carbohydrate), and the adapted feeding rations limit the calorie intake. The high water content helps in satiety feeling.

> High Palatability

The richness in animal ingredients (87%) and the macronutrient share (high protein / very low carbohydrate) respect the natural preference of cats.

➤ ANALYTICAL CONSTITUENTS
% as fed

• Moisture	79.5
• Protein	11
• Animal to vegetal protein ratio	89/11
• Fat	4.5
• Minerals	2.1
• Crude Cellulose	0.8
• NFE*	2.1
• Calcium	0.22
• Phosphorus	0.15
• Sodium	0.30
• Potassium	0.23
• Magnesium	0.014
• Chloride	0.40
• Sulphur	0.40
• Omega-6 fatty acids	0.85
• Omega-3 fatty acids	0.28

➤ KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	93
• ME** measured in vivo (kcal/100g)	81
• Protein digestibility (in vivo; %)	89
• Fat digestibility (in vivo; %)	93
• Energy from protein (%)	47
• Energy from fat (%)	44
• NFE (%)	9
• Urinary pH	6.0-6.5
• Struvite RSS	<1
• Oxalate RSS	<12

* Nitrogen Free Extract

** Metabolisable energy

*** Calculated with NRC 2006

LOW
CARBOHYDRATE (NFE)

2,1%

HIGH
PROTEIN

11%

of ANIMAL ORIGIN

89%

➤ COMPOSITION

Chunks (50%): pork kidney, chicken liver, pork lung lobe, chicken skin, chicken gizzard, pork plasma, minerals and vitamins, chicken neck, pea protein extract, digest, lignocellulose, fish oil, cellulose, potato starch, sunflower oil, caramel.

Gravy (50%): water, tapioca starch, caramel.

➤ SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	900 mg/kg
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➤ FEEDING GUIDELINES



If exclusive feeding with WET			
Body Weight (kg)	Daily ration (pouch/day)		
	Overweight	Normal*	Underweight
2	1	1	1
3	1.5	1.5	2
4	2	2	2.5
5	2.5	2.5	3
6	3	3	3.5
7	3.5	4	4
8	4	4.5	5
9	4.5	5	5.5
10	5	5.5	6

Mixed feeding is also possible, combining Veterinary HPM® Wet and Dry Urology diets. We propose to provide around 50% of the energy needed with wet and 50% with dry, but all combinations are possible depending on the individual case.

If feeding ration composed with both WET & DRY Vet HPM U1						
Body Weight (kg)	Overweight		Normal*		Underweight	
	Wet (pouch/day)	Dry (g/day)	Wet (pouch/day)	Dry (g/day)	Wet (pouch/day)	Dry (g/day)
2	0.5	10	0.5	10	0.5	15
3	0.5	20	0.5	25	1	15
4	1	20	1	25	1	30
5	1	30	1	35	1	45
6	1	40	1	45	1	55
7	1	50	2	35	2	45
8	2	35	2	45	2	55
9	2	45	2	60	2	70
10	2	55	2	70	2	80

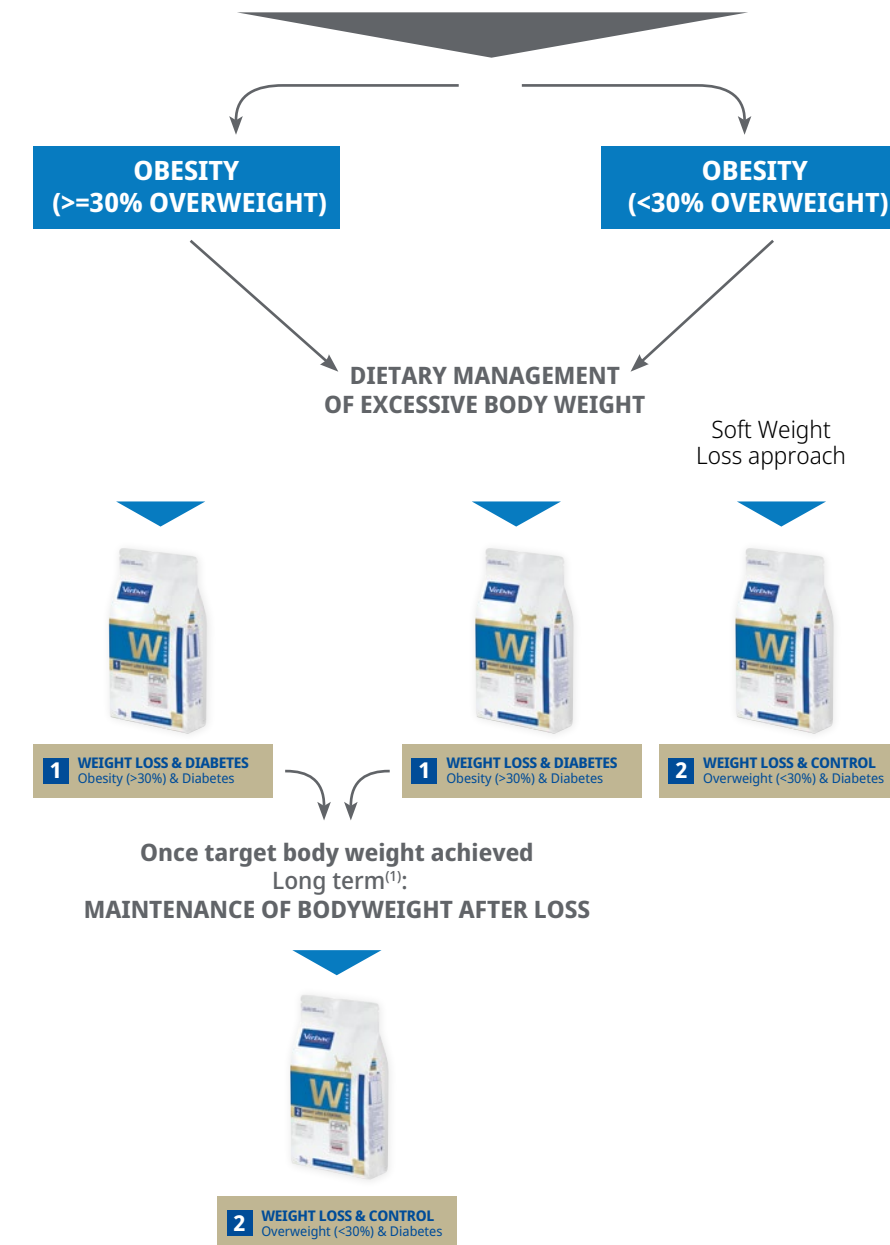
If feeding ration composed with both WET & DRY Vet HPM U2 or U3						
Body Weight (kg)	Overweight		Normal*		Underweight	
	Wet (pouch/day)	Dry (g/day)	Wet (pouch/day)	Dry (g/day)	Wet (pouch/day)	Dry (g/day)
2	0.5	10	0.5	10	0.5	15
3	0.5	20	0.5	25	1	15
4	1	20	1	25	1	30
5	1	30	1	35	1	45
6	1	40	1	45	1	55
7	1	50	2	40	2	45
8	2	40	2	50	2	60
9	2	50	2	60	2	75
10	2	60	2	75	2	85

*Adult neutered indoor cat with optimal body weight

W E I G H T



FELINE OBESITY



DIABETES MELLITUS



¹⁾ A veterinarian's opinion should be sought before use.



➤ AVAILABLE FORMATS

- 1.5 kg, 3 kg, 7 kg

➤ DIETETIC INDICATIONS*

- Reduction of excessive body weight.
- Regulation of glucose supply (diabetes mellitus); only in case of associated obesity

➤ OTHER USE

- Responsive-fibre colitis, constipation.
- Lipid metabolism disorders (hyperlipidemia).

➤ CONTRAINDICATIONS

- Growth.
- Gestation and lactation.
- Chronic kidney disease (CKD).

* Commission regulation (EU) 2020/354

➤ KEY BENEFITS & CHARACTERISTICS

➤ Low Energy Density*



Low energy density of the diet helps achieve rapid weight loss ⁽¹⁾.

➤ Joint Support

Addition of chondroitin sulfate and chitosan can help joint support and thus improve interactions and life quality.

➤ Improves Lean mass / Fat Mass Ratio



High Protein- Low Carbohydrate (HP-LC) formulation helps maintain lean mass and decrease fat mass during weight loss ⁽¹⁾.

➤ High Crude Fibre Improves Satiety

High crude fibre content, especially insoluble fibres, in association with high level of protein, helps promote satiety.

➤ Low Glycemic Index & Total Sugar



HP-LC formulation with low amounts of starch and total sugars helps reduce the impact of the meal on glycaemia and insulinemia and helps manage patients with diabetes mellitus or insulin resistance ⁽¹⁾.

➤ ADDITIONAL BENEFITS & CHARACTERISTICS

➤ Fat Burning

Added L-carnitine as fat burner helps lean mass preservation during weight loss.

➤ Increased levels of vitamins and trace elements (by 15% compared to Veterinary HPM Adult Cat Neutered)

Formula enriched with vitamins and trace elements guarantees adequate contributions despite of feeding restriction and small rations.

➤ Controlled palatability

Richness in animal protein and fat respects natural preferences of carnivores to help achieve compliance.

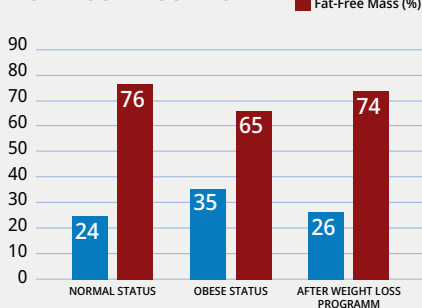
➤ Limits the risk of Feline Lower Urinary Tract Disease (FLUTD)

High protein and sodium contents stimulate water intake, increase urine volume and micturition frequency.

➤ Suitable for Adult and Senior cats

The amounts of all essential nutrients fit the daily requirement of adult and senior cats.

BODY COMPOSITION



➤ ANALYTICAL CONSTITUENTS
% as fed

• Moisture	5.5
• Protein	44
• Animal to vegetal protein ratio	94/06
• Fat	11
• Minerals	8.5
• Crude Fibre	13
• NFE*	18
• Starch	12.5
• Calcium	1.3
• Phosphorus	0.9
• Sodium	0.9
• Total sugars	1
• Omega-6 fatty acids	2
• Omega-3 fatty acids	0.7

➤ KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	331
• ME** measured in vivo (kcal/100g)	306
• Protein digestibility (in vivo; %)	84
• Fat digestibility (in vivo; %)	94
• Energy from protein (%)	50
• Energy from fat (%)	30
• Energy from NFE (%)	20
• Protein to Calorie ratio (g/Mcal)	133

* Nitrogen Free Extract

** Metabolisable energy

*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE)

18%

HIGH PROTEIN

44%

of ANIMAL ORIGIN

94%

➤ COMPOSITION

Dehydrated pork and poultry proteins, lignocellulose, potato starch ⁽¹⁾, hydrolysed pork and poultry proteins, minerals, animal fats, linseed, beet pulp, brewers yeast, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, hydrolysed crustacean (source of chitosan), chondroitin sulfate, *Lactobacillus acidophilus*.
⁽¹⁾ Carbohydrate sources.

➤ SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• Chitosan	800 mg/kg
• L-carnitine	540 mg/kg
• Chondroitin sulfate	440 mg/kg

➤ FEEDING GUIDELINES



IN THE CASE OF OBESITY WITHOUT CONCURRENT DIABETES

Target Body Weight (kg)	Daily ration (g/day)	
	High restriction	Moderate restriction
2	15	25
3	25	35
4	35	45
5	45	60
6	50	70
7	60	80
8	70	95
9	80	105
10	85	115

The daily ration is based on the cat's TARGET bodyweight.

IN THE CASE OF OBESITY ASSOCIATED WITH DIABETES

Current Body Weight (kg)	Daily ration (g/day)
2	25
3	35
4	45
5	60
6	70
7	80
8	95
9	105
10	115

The daily ration is based on the cat's CURRENT body-weight, and must be adjusted every week. Always provide a generous supply of fresh drinking water. It is normal to notice an important increase in water intake and urine volume.



100% OF CATS HAVE REACHED THEIR TARGET BODY WEIGHT ⁽¹⁾

1.7% OF MEAN WEIGHT LOSS/PER WEEK ⁽¹⁾

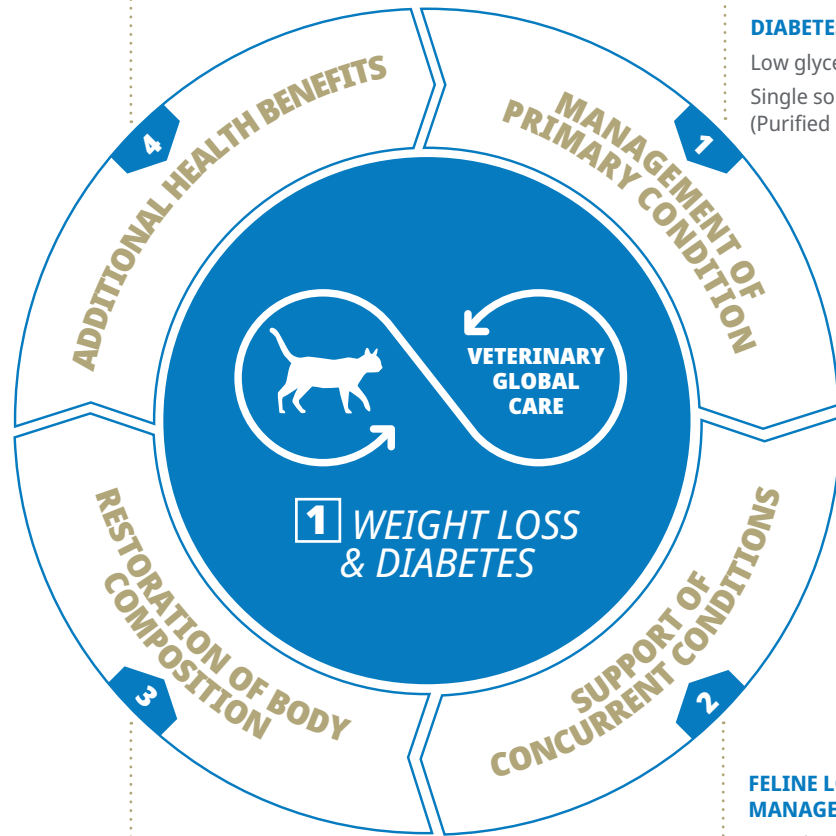
OUR STUDIES

Page 156



(1) A. André et al. Weight loss with a high protein diet allows the recovery of optimal body composition and improves insulin sensitivity in obese cats. ESVCN Congress, 2016.

Immune support
High digestive tolerance
Healthy renal function
Withdrawal of major allergens



REDUCTION OF EXCESSIVE BODY WEIGHT

Low energy density (Reduced fat content)
Helps increase satiety (High fibre, high protein)
Increased volumetric ration (Low kibble density)
Adapted feeding rations

DIABETES MELLITUS MANAGEMENT

Low glycemic index
Single source of carbohydrate (Purified potato starch)

FELINE LOWER URINARY TRACT DISEASE MANAGEMENT

Stimulates water intake, helps increase urine volume and micturition frequency
Optimises urine acidification (pH 6.0 – 6.5)

JOINT SUPPORT

Muscle Mass preservation (High protein)
Chondroprotective agents (Chondroitin Sulfate + Chitosan, Vitamin E)

Lean mass preservation (High protein)
Fat mass loss (Low carbohydrate)
Added fat burner (L-Carnitine)





➤ AVAILABLE FORMATS

- 1.5 kg, 3 kg, 7 kg

➤ DIETETIC INDICATIONS*

- Reduction of excessive body weight.
- Regulation of glucose supply (diabetes mellitus); only in case of normal body weight.

➤ OTHER USE

- Fibre-responsive colitis, constipation.

➤ CONTRAINDICATIONS

- Growth.
- Gestation and lactation.
- Chronic kidney disease (CKD).

* Commission regulation (EU) 2020/354

➤ KEY BENEFITS & CHARACTERISTICS

➤ Low Energy Density*

 Low energy density of the diet helps achieve soft weight loss ⁽¹⁾.

➤ Moderate Restriction of Daily Ration

 A soft weight loss programme is proposed, with the advantage of moderate feeding rations, to help achieve better compliance ⁽¹⁾.

➤ Improves Lean Mass / Fat Mass Ratio

High Protein- Low Carbohydrate (HP-LC) formulation helps preserve lean mass during weight loss and maintain ideal body composition after weight loss.

➤ High palatability

 Richness in animal protein and fat guarantess high palatability for a better compliance ⁽¹⁾.

➤ Low Glycemic Index & Total Sugar

High Protein- Low Carbohydrate (HP-LC) formulation with low amounts of starch and total sugars helps reduce the impact of the meal on glycaemia and insulinemia and helps manage patients with diabetes mellitus or insulin resistance.

➤ ADDITIONAL BENEFITS & CHARACTERISTICS

➤ Fat burning

Added L-carnitine as fat burner helps lean mass preservation during weight loss.

➤ Increases Water Intake

High dietary protein amount stimulates water intake, increases urine volume and micturition frequency, and helps limit the risk of lower urinary tract diseases.

➤ Joint Support

Addition of chondroitin sulfate and chitosan helps joint support and thus improve interactions and life quality.

➤ Increased Fibres

Fibres help promote satiety and regulate starch digestion and glucose absorption.

➤ Coat Condition

Level and balance in omega-6 and omega-3 help for a shiny coat.

➤ ANALYTICAL CONSTITUENTS
% as fed

• Moisture	5.5
• Protein	44
• Animal to vegetal protein ratio	90/10
• Fat	12
• Minerals	8.5
• Crude Fibre	11.5
• NFE*	18.5
• Starch	12
• Total sugars	1.4
• Calcium	1.3
• Phosphorus	1.1
• Sodium	0.7
• Omega-6 fatty acids	2.1
• Omega-3 fatty acids	0.7

➤ KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	342
• ME** measured in vivo (kcal/100g)	325
• Protein digestibility (in vivo; %)	82.5
• Fat digestibility (in vivo; %)	94.5
• Energy from protein (%)	48
• Energy from fat (%)	32
• Energy from NFE (%)	20
• Protein to Calorie ratio (g/Mcal)	129

* Nitrogen Free Extract

** Metabolisable energy

*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 18.5%

HIGH PROTEIN 44%

of ANIMAL ORIGIN 90%

➤ COMPOSITION

Dehydrated pork and poultry proteins, lignocellulose, potato starch ⁽¹⁾, hydrolysed pork and poultry proteins, animal fats, rice ⁽¹⁾, peas ⁽¹⁾, minerals, faba bean hulls, linseed, beet pulp, brewers yeast, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, hydrolysed crustacean (source of chitosan), chondroitin sulfate, *Lactobacillus acidophilus*.

⁽¹⁾ Carbohydrate sources

➤ SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• Chitosan	800 mg/kg
• L-carnitine	540 mg/kg
• Chondroitin sulfate	215 mg/kg

➤ FEEDING GUIDELINES



Body Weight (kg)	Daily ration (g/day)		
	Weight loss	Weight control	Diabetes (without obesity)
2	20	25	25
3	35	40	40
4	45	50	50
5	55	65	65
6	65	75	75
7	80	90	90
8	90	100	100
9	100	115	115
10	110	125	125

The daily ration is based on the cat's CURRENT bodyweight, and must be adjusted every week in case of weight loss and every month in case of maintenance.



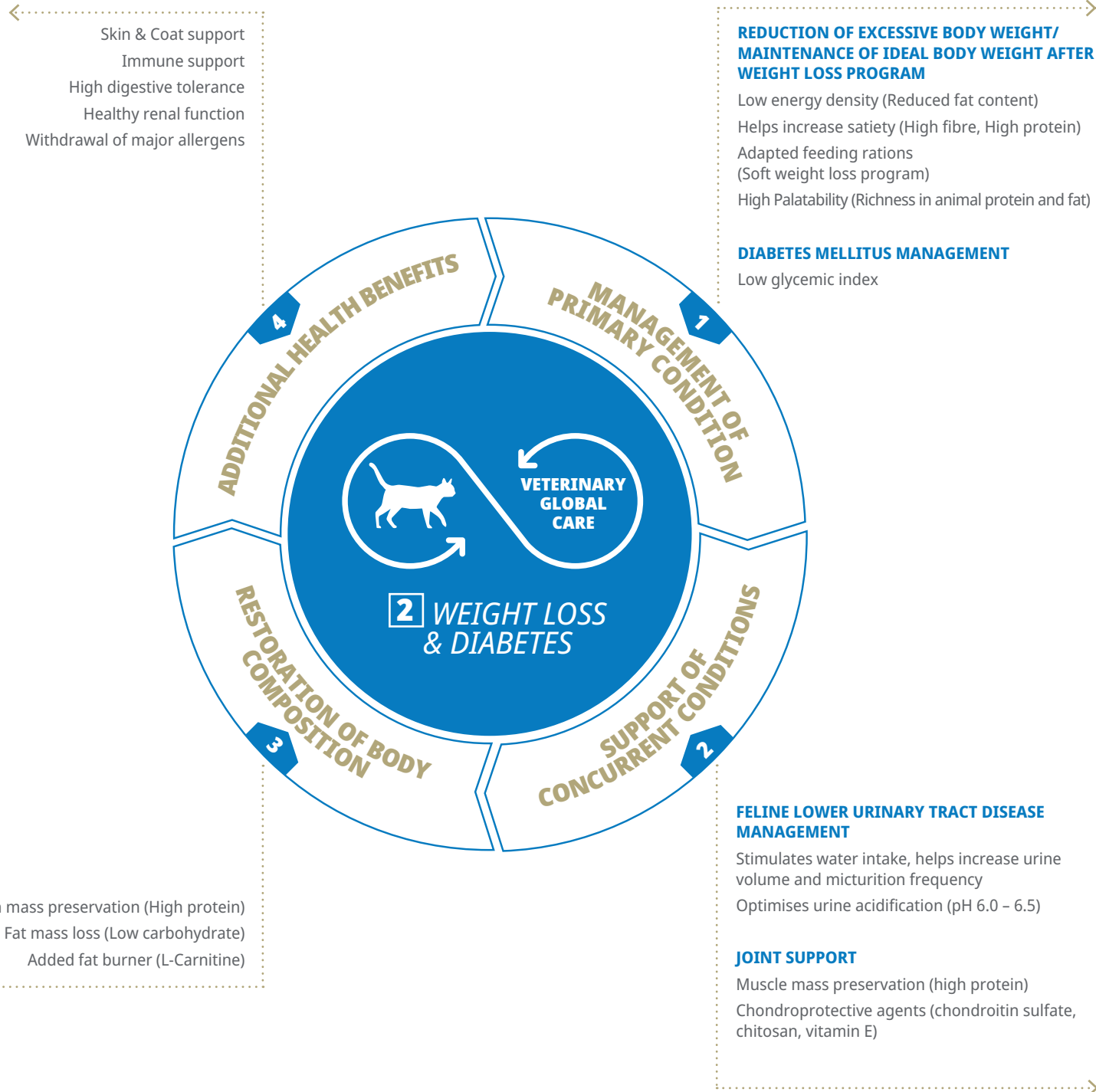
67% HAVE SIGNIFICANTLY LOST BODY WEIGHT ⁽¹⁾

1.2% OF MEAN WEIGHT LOSS/PER WEEK ⁽¹⁾

OUR STUDIES

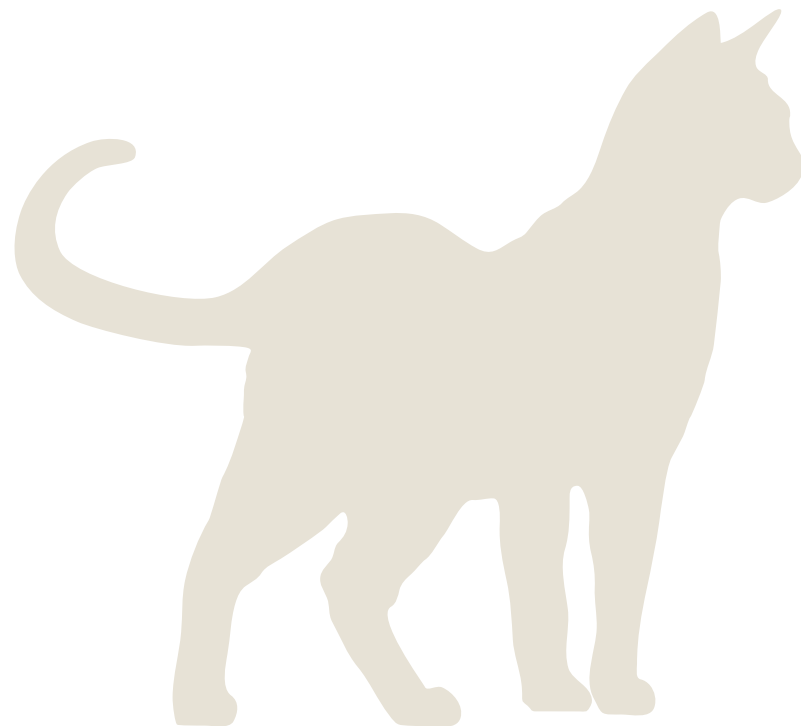
 Page 158



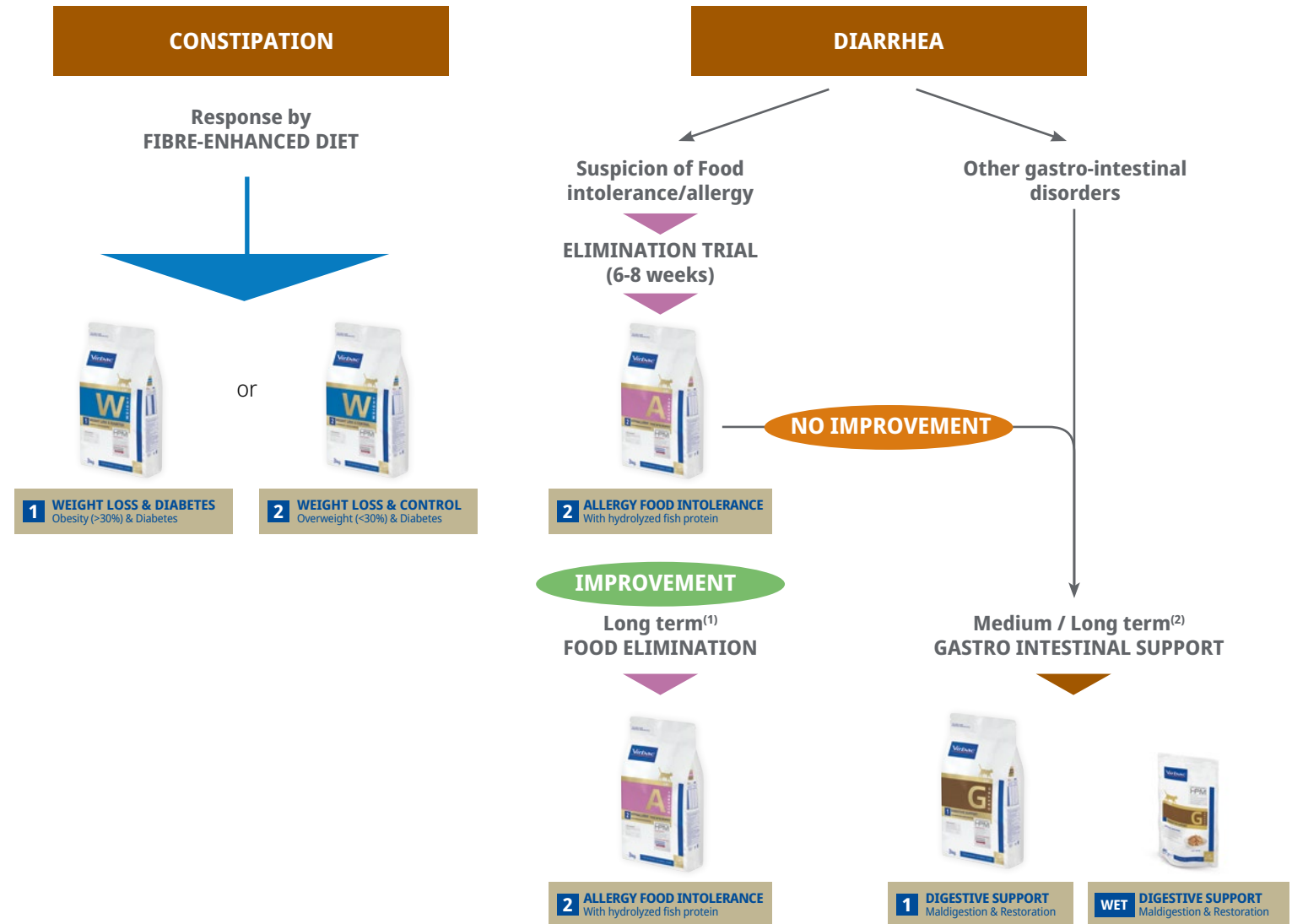


G

GASTRO



CHRONIC FELINE DIGESTIVE DISEASES



1) If signs of intolerance disappear, this food can be used indefinitely (European Commission directive 2020/354)
2) Up to 12 weeks, it is recommended that a veterinarian's opinion be sought before use and continuation of diet feeding.



AVAILABLE FORMATS

- 1.5 kg, 3 kg

DIETETIC INDICATIONS*

- LINKED TO GASTROINTESTINAL DISORDERS:
- Compensation for maldigestion
 - Reduction of intestinal absorptive disorders.
 - Chronic Exocrine Pancreatic Insufficiency.

LINKED TO RECOVERY

- Nutritional restoration, convalescence.

OTHER USE

- Gastritis / Enteritis / Colitis.
- Megacolon.
- Inflammatory Bowel Disease.
- Recovery after digestive surgery.
- Recovery after disease.
- Recovery after anorexia period.

CONTRAINDICATIONS

- Chronic kidney disease (CKD).
- Cardiac insufficiency.
- Chronic hepatic insufficiency.

* Commission regulation (EU) 2020/354

KEY BENEFITS & CHARACTERISTICS

Promotes Nutritional Restoration*

High levels of essential nutrients and energy density helps compensate for losses and allow body composition restoration.

Low allergen formulation

The diet is made without beef, gluten, maize, wheat, soya, egg, fish. The number of protein sources is limited (3: pork, poultry and rice) to minimise antigenic load and adverse digestive reactions.

High Energy & Concentration*

High energy density reduces the size of the daily ration and helps limit the workload of the digestive tract. High parts of energy from fat and from protein, the two sources easily used and beneficial during the acute phase of recovery. High concentration in all the essential nutrients allows to cover the high needs in small rations.

Low Starch (13% as fed)

Low level of starch helps limit the workload of the digestive tract and increase digestibility and digestive tolerance.

Digest Plus Complex

Addition of specific ingredients (clay, probiotics, prebiotics, selected fibres, butyrate, nucleotides) helps to quickly secure the digestive function, improve the digestive tolerance and produce normal faeces.

ADDITIONAL BENEFITS & CHARACTERISTICS

Increases Water Intake

High amounts of protein and sodium stimulate water intake to help compensate for hydroelectrolytic losses.

Supports Digestive Barrier Effect

Addition of selected ingredients (beta glucan, byturate, nucleotides) contribute to restore an efficient body's defense at the digestive level and limit the risk of recurrences in the long term⁽¹⁾.

Enhances Immunity

High protein content, with balanced amino acid profile, beta glucan and vitamin E help reinforce the immune system and helps the recovery.

High Palatability

Richness in animal protein and fat guarantees high palatability for optimal compliance⁽¹⁾.

Suitable for all life stages

The amounts of all essential nutrients fit the daily requirements of all cats at all stages or physiological status (kittens, adult cats, gestating or lactating queens, and senior cats).

ANALYTICAL CONSTITUENTS
% as fed

• Moisture	5.5
• Protein	44
• Animal to vegetal protein ratio	92/08
• Fat	21
• Minerals	8.5
• Crude Fibre	3.5
• NFE*	17.5
• Starch	13
• Calcium	1.3
• Phosphorus	1.1
• Sodium	0.9
• Potassium	0.8
• Omega-6 fatty acids	3.5
• Omega-3 fatty acids	1
• EPA+DHA	0.3

KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	418
• ME** measured in vivo (kcal/100g)	419
• Protein digestibility (in vivo; %)	91
• Fat digestibility (in vivo; %)	95
• Energy from protein (%)	39
• Energy from fat (%)	45
• Energy from NFE (%)	16
• Protein to Calorie ratio (g/Mcal)	105

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 17.5%

HIGH PROTEIN 44%

of ANIMAL ORIGIN 92%

COMPOSITION

Dehydrated pork and poultry proteins⁽¹⁾, rice⁽¹⁾, animal fats⁽¹⁾, minerals, hydrolysed pork and poultry proteins⁽¹⁾, beet pulp, lignocellulose, linseed, brewers yeast (source of betaglucan and nucleotides), fish oil⁽¹⁾, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, hydrolysed crustacean (source of chitosan), calcium butyrate, *Lactobacillus acidophilus*.

1) highly digestible ingredients.

SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• Butyrate	300 mg/kg
• Nucleotides	560 mg/
• Beta Glucan	500 mg/kg
• Chitosan	800 mg/

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Recovery Underweight
2	20	25	25
3	30	35	40
4	40	45	55
5	50	55	70
6	60	70	80
7	70	80	95
8	80	90	110
9	90	100	125
10	100	115	135

The daily ration is based on the cat's CURRENT bodyweight, and must be adjusted every week during recovery and every month in the medium/long term.



VISIBLE RESULTS WITHIN 1 MONTH⁽¹⁾

91% SHOW NORMAL FAECES CONSISTENCY

85% OF CATS SHOW NORMAL STOOL ODOUR

98% OF CATS IMPROVED AFTER 1 MONTH

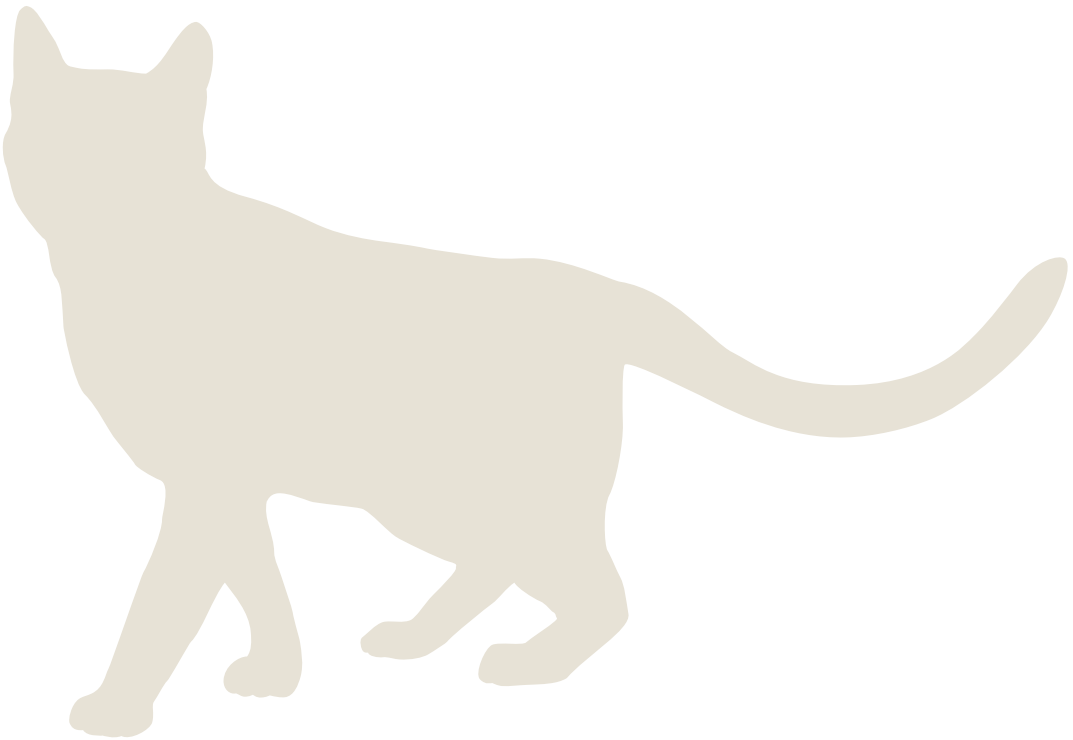
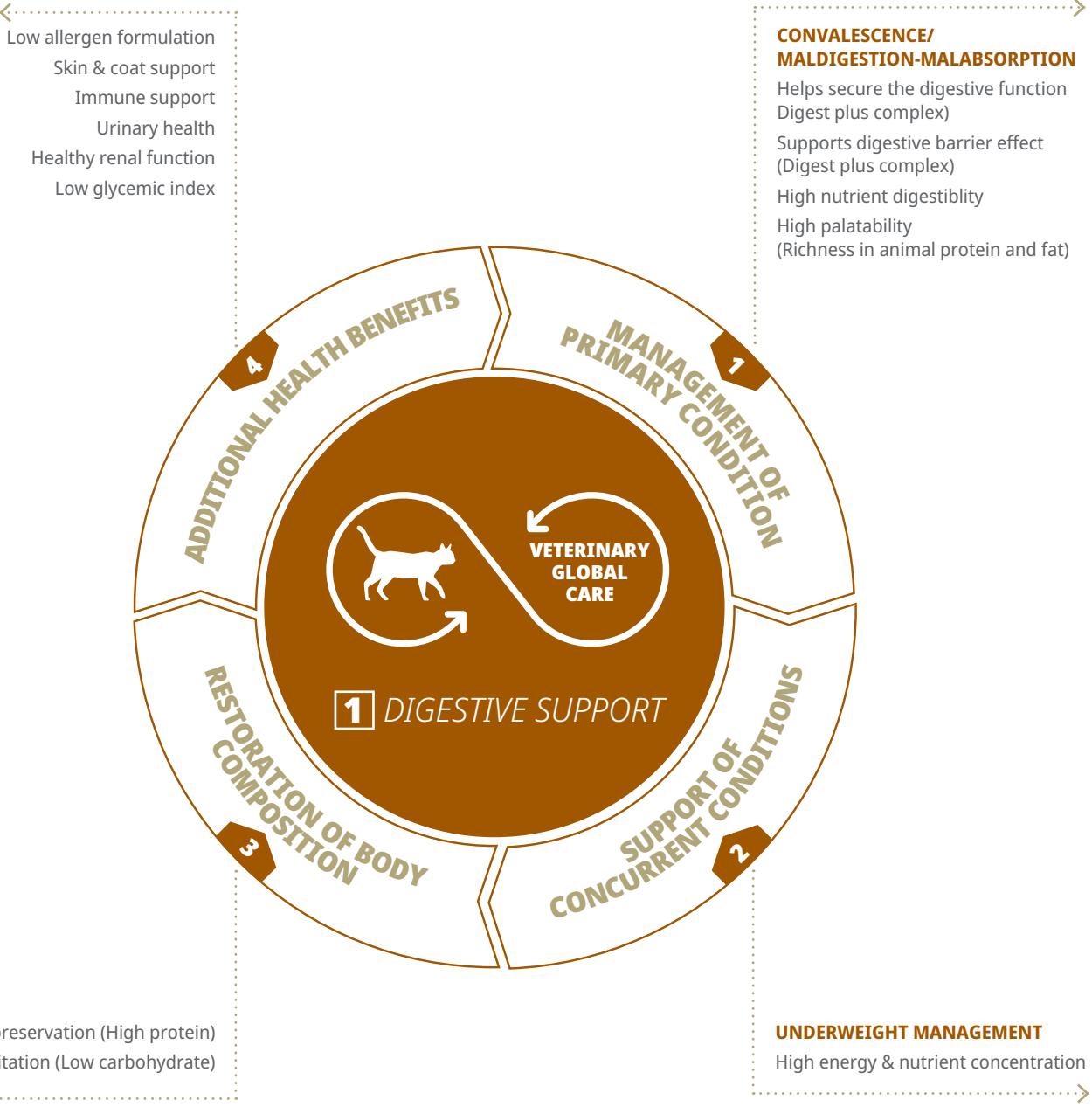
OUR STUDIES

Page 160



(1) I. Leriche et al. Assessment of a new high protein – low carbohydrate diet in cats with chronic gastrointestinal disease. J Fel Med Surg 2017; 1(4): 1-6.

*Adult neutered indoor cat with optimal body weight





AVAILABLE FORMATS

- 12 x 85 g pouch box

DIETETIC INDICATIONS*

- Compensation for maldigestion
- Reduction of intestinal absorptive disorders
- Chronic Exocrine Pancreatic Insufficiency.

LINKED TO RECOVERY

- Nutritional restoration, convalescence.

OTHER USE

- Gastritis / Enteritis / Colitis.
- Megacolon.
- Inflammatory Bowel Disease.
- Recovery after digestive surgery.
- Recovery after disease.
- Recovery after anorexia period.

CONTRAINDICATIONS

- Chronic Kidney Disease

* Commission regulation (EU) 2020/354

GASTRO

WET

DIGESTIVE SUPPORT
Maldigestion & Restoration

KEY BENEFITS
& CHARACTERISTICS

> High Energy

The high energy density of the diet helps compensate for losses and cover the high needs in small rations.

> High protein Low carbohydrate

The energy balance (Protein:Fat:Carbohydrate) of the diet favors the quick restoration of optimal body condition.

> High Digestive Tolerance

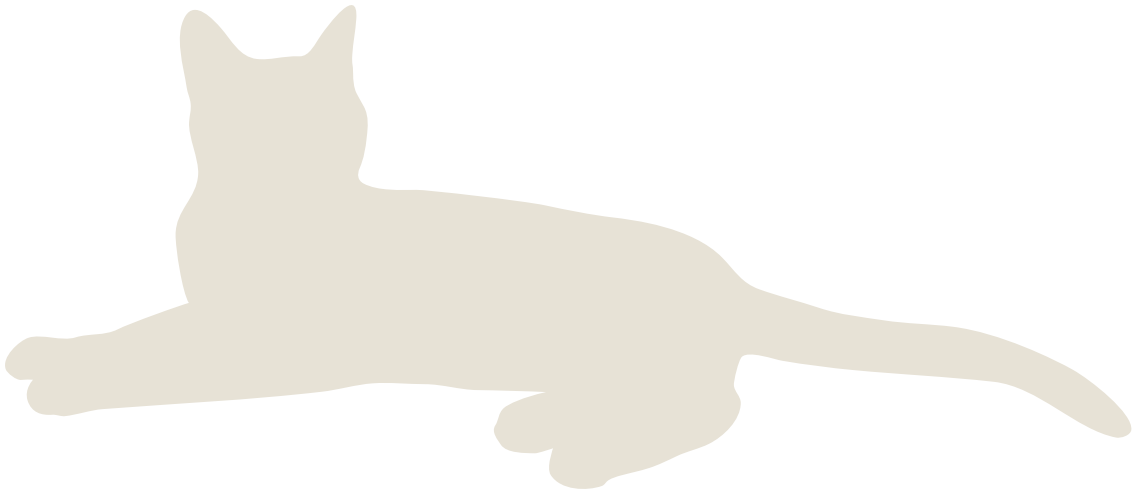
The rigorous selection of high quality raw materials helps to quickly secure the digestive function and produce normal faeces.

> Supports hydration

The high moisture content of the wet diet naturally increases total water intake and helps prevent dehydration that may result from digestive troubles.

> High Palatability

The richness in animal ingredients (85%) guarantees high palatability for optimal compliance.



VISIBLE RESULTS WITHIN 1 MONTH⁽¹⁾



95% SHOW NORMAL FAECES CONSISTENCY

95% OF CATS SHOW NORMAL STOOL ODOUR

93% OF CATS IMPROVED AFTER 2 WEEKS

MIXED DRY-WET
STUDY

Page 162



(1) I Leriche, M Rose, I Mougeot. Effectiveness of a combination of dry and wet high fat high protein dietetic foods in cats with chronic gastrointestinal disorders. World feline Congress, 2025

ANALYTICAL CONSTITUENTS
% as fed

• Moisture	72
• Protein	14
• Animal to vegetal protein ratio	84/16
• Fat	8.5
• Minerals	2.3
• Crude Cellulose	0.9
• Nitrogen Free Extract	2.3
• Starch	0.4
• Calcium	0.25
• Phosphorus	0.2
• Sodium	0.3
• Potassium	0.3
• Omega-6	2.2
• Omega-3	0.7
• EPA + DHA	0.45

KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	136
• ME** measured in vivo (kcal/100g)	137
• Protein digestibility (in vivo; %)	86.5
• Fat digestibility (in vivo; %)	97
• Energy from protein (%)	40
• Energy from fat (%)	54
• Energy from NFE (%)	6
• Protein to Calorie ratio (g/Mcal)	103

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 2,3%

HIGH PROTEIN 14%

of ANIMAL ORIGIN 84%

COMPOSITION

Loaf: chicken liver⁽¹⁾, pork kidney⁽¹⁾, chicken neck, chicken tripes⁽¹⁾, mechanically deboned chicken meat⁽¹⁾, pea protein extract⁽¹⁾, pork plasma⁽¹⁾, chicken skin⁽¹⁾, egg white⁽¹⁾, fish oil⁽¹⁾, minerals and vitamins, sunflower oil⁽¹⁾, digest⁽¹⁾, cellulose, lignocellulose, potato starch, caramel.

⁽¹⁾ highly digestible ingredients.

SPECIFIC INGREDIENTS/ADDITIVES

- Bentonite 900 mg/kg



FEEDING GUIDELINES

IF EXCLUSIVE FEEDING WITH WET

Body Weight (kg)	Pouch/day		
	Overweight	Normal*	Recovery Underweight
2	1	1	1
3	1	1	1.5
4	1.5	1.5	2
5	2	2	2.5
6	2	2.5	2.5
7	2.5	3	3
8	3	3.5	3.5
9	3.5	3.5	4
10	4	4	4.5

The daily ration is based on the cat's CURRENT bodyweight, and must be adjusted every week during recovery and every month in the medium/long term.

Mixed feeding is also possible, combining Veterinary HPM Wet and Dry Digestive diets. We propose to provide around 50% of the energy need with wet and 50% with dry, but all combinations are possible depending on the individual case.

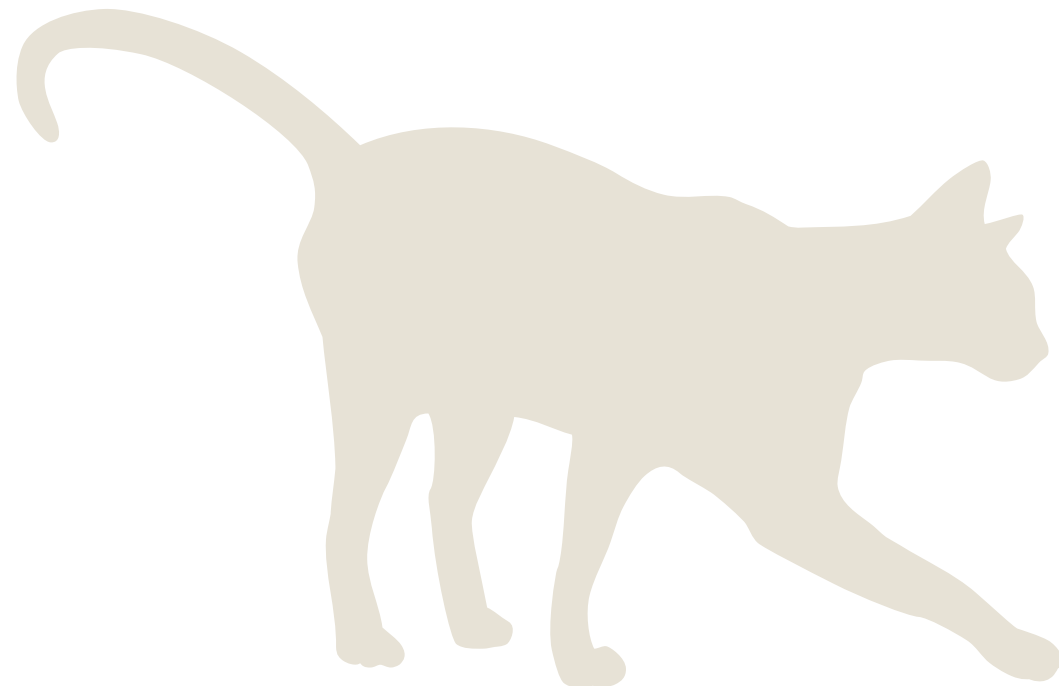
IF FEEDING RATION COMPOSED WITH BOTH WET AND DRY
VET HPM DIGESTIVE SUPPORT CAT

Body Weight (kg)	Overweight		Normal*		Recovery Underweight	
	Wet (pouch)	Dry (g/day)	Wet (pouch)	Dry (g/day)	Wet (pouch)	Dry (g/day)
2	0.5	5	0.5	10	0.5	15
3	0.5	15	0.5	20	0.5	25
4	0.5	25	0.5	30	1	25
5	1	25	1	30	1	40
6	1	35	1	40	1	55
7	1	45	1.5	40	1.5	55
8	1.5	40	1.5	50	1.5	70
9	1.5	50	1.5	60	2	65
10	2	45	2	60	2	80

*Adult neutered indoor cat with optimal body weight

D

DERMATOLOGY

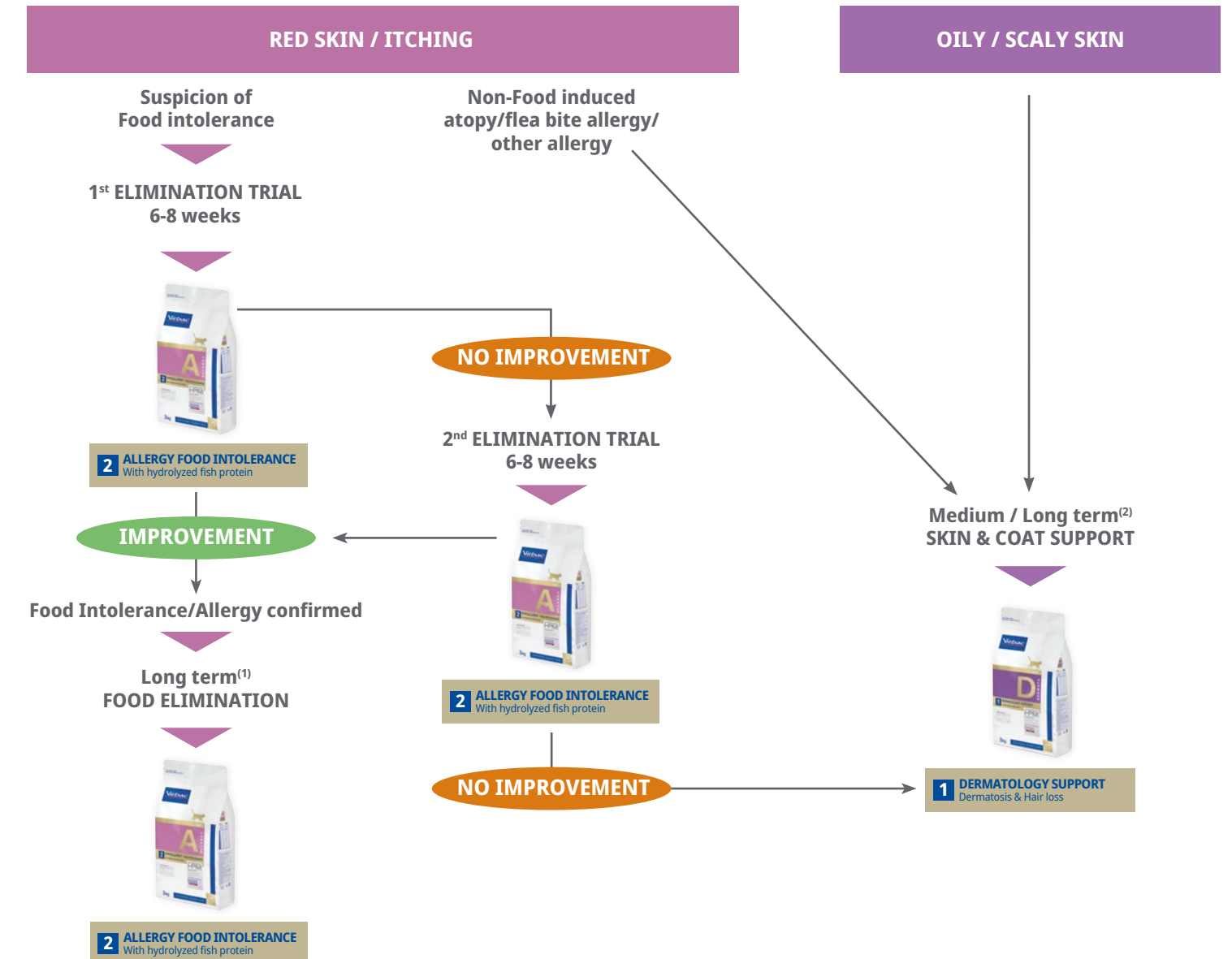


DERMATOLOGY

DECISION TREE FOR RIGHT DIET CHOICE



FELINE SKIN & COAT DISEASE



1) If signs of intolerance disappear, this food can be used indefinitely (European Commission directive 2020/354)

2) Up to 2 months. It is recommended that a veterinarian's opinion be sought before use. (European Commission directive 2020/354)



> AVAILABLE FORMATS

- 3 kg

> DIETETIC INDICATIONS*

- Support of the skin function in the case of dermatosis and excessive loss of hair.

> OTHER USE

- Dermatitis.
- Pruritus.

> CONTRAINDICATIONS

- Chronic kidney disease (CKD).
- Chronic hepatic insufficiency.

* Commission regulation (EU) 2020/354

> KEY BENEFITS & CHARACTERISTICS

> Improves Coat condition

 High linoleic acid (LA) content helps reduce scales production and regulate sebaceous secretion for a shiny coat ⁽¹⁾.

> High Protein & Sulphur Amino Acids

Richness in animal protein answers the high requirements to restore skin integrity with proper skin healing and hair regrowth.

> DERMA Plus Complex

 Concentration and balance in omega-6 and omega-3 (by fish and sunflower oils, borage seeds), plus synergistic co-factors vitamins A and E, help improve clinical signs of dermatosis and dermatitis ⁽¹⁾.

> High Level of Essential Fatty Acids*

High supplementation with both omega-6 and omega-3 helps decrease inflammatory processes, and repair skin and coat.

> Supports Skin Barrier Effect

Richness in animal protein and essential fatty acids help reinforce natural skin defences, key factor in management of dermatosis and dermatitis in the long term.

> ADDITIONAL BENEFITS & CHARACTERISTICS

> Modulates Inflammation

Balanced 6:3 ratio helps reduce clinical signs related to inflammation (redness, itching).

> High Digestibility and Digestive Tolerance

Addition of clay, prebiotics, probiotics, fibres helps maintain a healthy digestive tract to optimise the absorption of all the essential nutrients for skin and coat.

> Withdrawal of major allergens

The diet is made without beef, gluten, maize, wheat, rice, soya, egg, fish.

> Immune Support

High protein content and added vitamin E help maintain a healthy immune system.

> Suitable for all Life Stages

The amounts of all essential nutrients fit the daily requirement of cats at all ages or physiological status (kittens, gestating or lactating queens, adult cats and senior cats).

> ANALYTICAL CONSTITUENTS
% as fed

• Moisture	5.5
• Protein	44
• Animal to vegetal protein ratio	91/09
• Fat	17.5
• Minerals	8.5
• Crude Fibre	5
• NFE*	19.5
• Starch	14
• Calcium	1.3
• Phosphorus	1.1
• Sodium	0.7
• Methionine + Cystine	1.5
• Phenylalanine + Tyrosine	2.6
• Omega-6 fatty acids	3.5
• LA	3.4
• Omega-3 fatty acids	1.1
• EPA+DHA	0.8

> KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	395
• ME** measured in vivo (kcal/100g)	437
• Protein digestibility (in vivo; %)	89
• Fat digestibility (in vivo; %)	97
• Energy from protein (%)	42
• Energy from fat (%)	40
• Energy from NFE (%)	18
• Protein to Calorie ratio (g/Mcal)	111

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 19.5%

HIGH PROTEIN 44%

of ANIMAL ORIGIN 91%

> COMPOSITION

Dehydrated pork and poultry proteins, potato starch, peas, hydrolysed pork and poultry proteins, minerals, lignocellulose, animal fats, fish oil, beet pulp, sunflower oil, brewers yeast, borage seed, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, hydrolysed crustacean (source of chitosan), chondroitin sulfate, *Lactobacillus acidophilus*.

> SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• Chitosan	800 mg/kg
• L-carnitine	540 mg/kg

> FEEDING GUIDELINES



Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Underweight
2	20	20	25
3	30	35	35
4	40	45	50
5	50	55	60
6	60	65	75
7	70	75	85
8	80	85	95
9	85	100	110
10	95	110	120

The daily ration is based on the cat's CURRENT bodyweight, and must be adjusted every month. Always provide a generous supply of fresh drinking water.

Long term use: due to its high energy density, it is necessary to respect daily recommendations to avoid excessive weight gain.

*Adult neutered indoor cat with optimal body weight

VISIBLE RESULTS WITHIN 2 WEEKS ⁽¹⁾



8/9 ASSESSED PARAMETERS IMPROVED SIGNIFICANTLY

95% OF CATS HAVE IMPROVED THEIR SKIN AND COAT CONDITION AT THE END OF THE STUDY

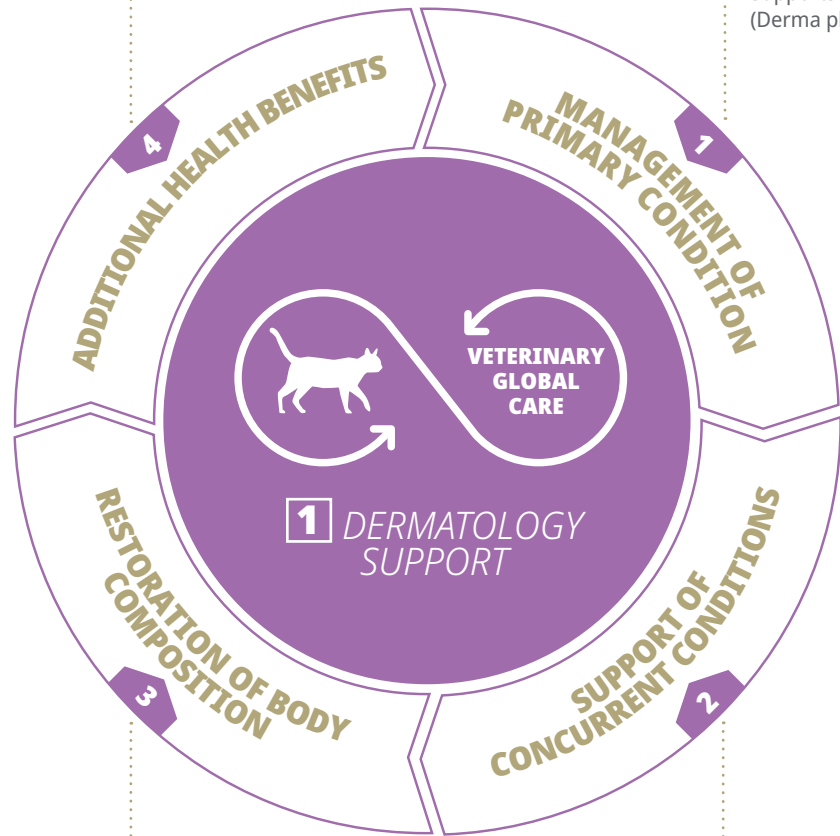
OUR STUDIES

 Page 164



(1) I. Leriche et al., Assessment of a new high protein – high fatty acid diet in cats with chronic skin and coat disorders. SEVC Congress 2016.

Withdrawal of major allergens
Immune support
High digestive tolerance
Urinary health
Healthy renal function
Low glycemic index



SKIN/COAT DISEASE MANAGEMENT
Modulates inflammatory cascade
(Derma plus complex)
Improves coat condition
(Derma plus complex)
Supports skin integrity (High protein
& Sulphur amino acids)
Supports skin barrier effect
(Derma plus complex)

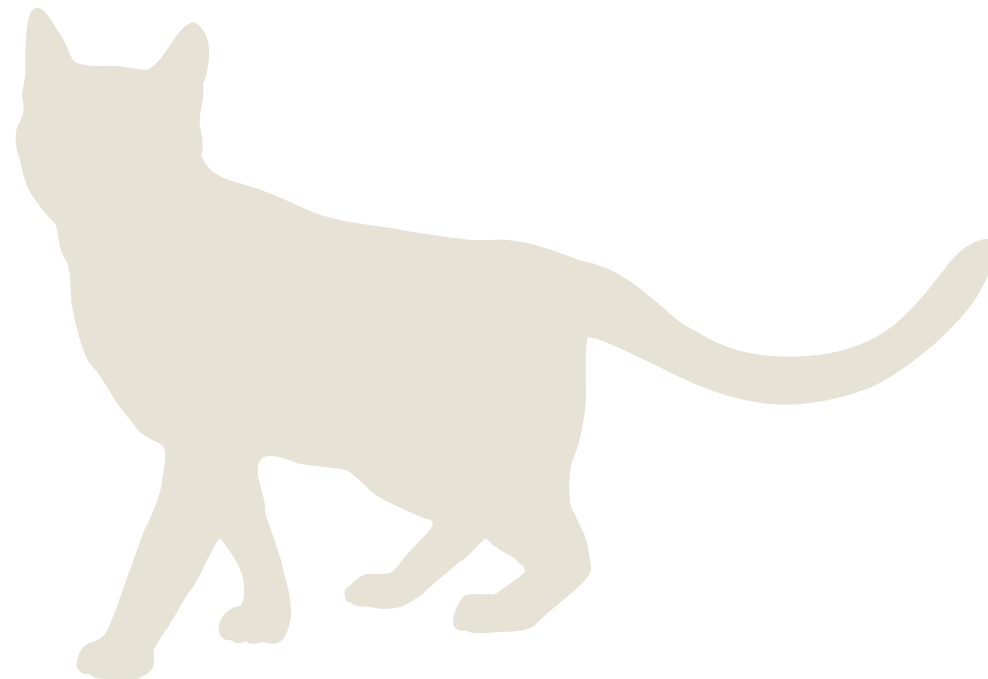
No identified predisposing or subsequent
nutritional disorder

Lean mass preservation (High protein)
Fat mass limitation (Low carbohydrate)
Added fat burner (L-Carnitine)

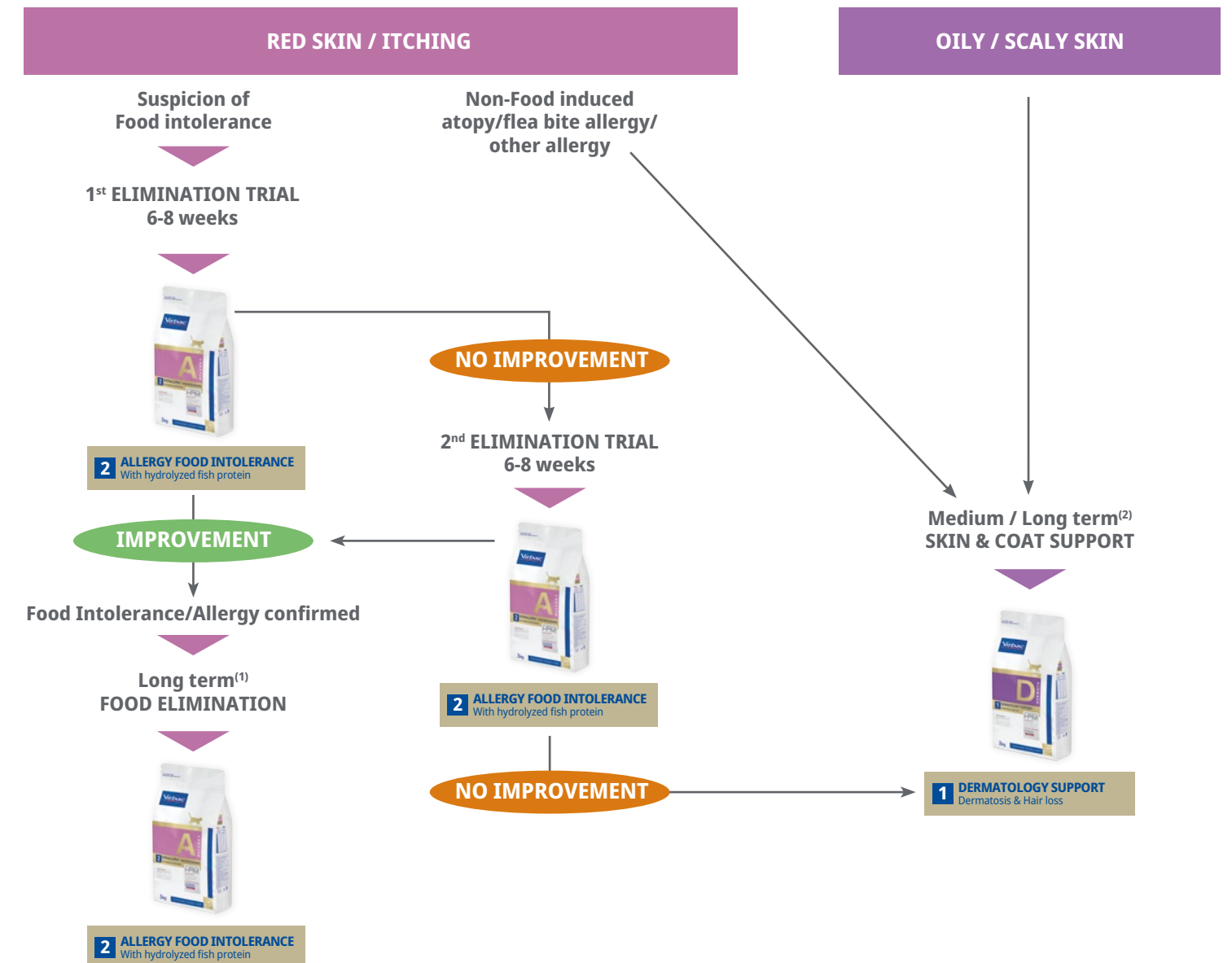


A

ALLERGY



FELINE SKIN & COAT DISEASE



1) If signs of intolerance disappear, this food can be used indefinitely (European Commission directive 2020/354)

2) Up to 2 months. It is recommended that a veterinarian's opinion be sought before use. (European Commission directive 2020/354)



> AVAILABLE FORMATS

- 3 kg

> DIETETIC INDICATIONS*

- Reduction of ingredient and nutrient intolerance.

> OTHER USE

- Food intolerance with concurrent digestive disorders (maldigestion/ malabsorption, diarrhea...).
- Food intolerance with concurrent skin/coat disorders (redness/itching).

> CONTRAINDICATIONS

- Growth.
- Gestation & Lactation.
- Chronic Kidney disease.

* Commission regulation (EU) 2020/354

ALLERGY

2 HYPOALLERGY FOOD INTOLERANCE
With hydrolysed fish protein

> KEY BENEFITS & CHARACTERISTICS

> Elimination Diet

Formula based on hydrolysed fish protein and potato starch allows management of most common food allergies.

> Purified Source of Carbohydrate (single source)

Potato starch is a purified source of starch, excluding the presence of protein.

> With hydrolysed fish protein*

Fish protein is extensively hydrolysed to achieve low molecular weight (mean MW of 1.40 kDa, 99% peptides below 10 kDa) ensuring food allergy management. Its high digestibility and biological value (amino acid profile) perfectly fit the daily requirements of cats.

> High Digestive Tolerance

Includes a specific association of ingredients (clay, probiotics, prebiotics, selected fibres) to secure the digestive function, which can be compromised in allergic cats ⁽¹⁾.

> High Palatability

Richness in animal protein and fat guarantees high palatability for optimal compliance during the elimination food trial or in the long term ⁽¹⁾.

> ADDITIONAL BENEFITS & CHARACTERISTICS

> Skin Integrity

Balanced omega-6 and omega-3 help reinforce natural skin defences and reduce the risk of other allergies.

> Coat Support

Adapted content in protein and essential fatty acids helps to maintain a healthy coat.

> High Digestibility

High digestibility helps support cats with concurrent compromised gastrointestinal function.

> Urinary Health

Mineral balance and adapted urinary pH and RSS limit the risk of feline lower urinary tract disease in the long term.

> Suitable for Adult and Senior cats

The amounts of all essential nutrients fit the daily requirement of adult and senior cats.

> ANALYTICAL CONSTITUENTS
% as fed

• Moisture	5.5
• Protein	31
• Animal to vegetal protein ratio	100/00
• Fat	16
• Minerals	7.5
• Crude Fibre	4
• NFE*	36
• Starch	32
• Calcium	0.8
• Phosphorus	0.7
• Sodium	0.7
• Methionine + Cystine	1.5
• Omega-6 fatty acids	3
• Omega-3 fatty acids	0.7

> KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	389
• ME** measured in vivo (kcal/100g)	383
• Protein digestibility (in vivo; %)	89
• Fat digestibility (in vivo; %)	93
• Energy from protein (%)	29
• Energy from fat (%)	37
• Energy from NFE (%)	34
• Protein to Calorie ratio (g/Mcal)	80

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 36%

HIGH PROTEIN 31%

of ANIMAL ORIGIN 100%

> COMPOSITION

Potato starch⁽¹⁾, hydrolysed fish protein⁽²⁾ (30%), poultry fats, minerals, lignocellulose, hydrolysed pork proteins⁽²⁾, beet pulp, mono di and tri glycerides of fatty acids, brewers yeast, fish oil, fructo-oligosaccharides, hydrolysed crustacean (source of chitosan), *Lactobacillus acidophilus*.

1) Carbohydrate source

2) Protein sources.

> SPECIFIC INGREDIENTS/ADDITIVES

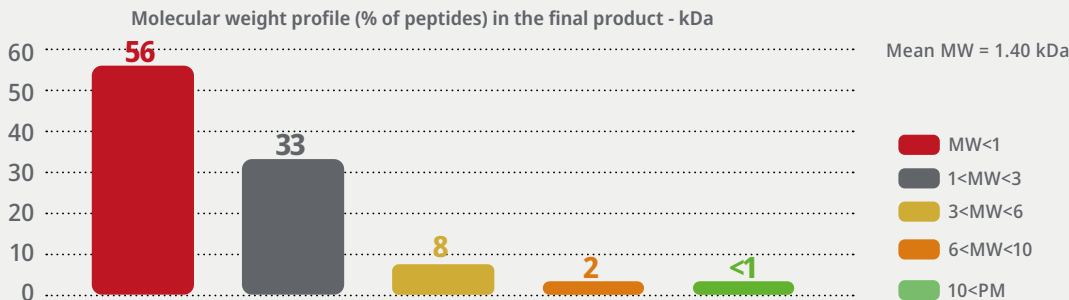
• Bentonite	5 g/kg
• Lactobacillus	7 mg/kg
• Chitosan	800 mg/kg
• L-carnitine	540 mg/kg

> FEEDING GUIDELINES

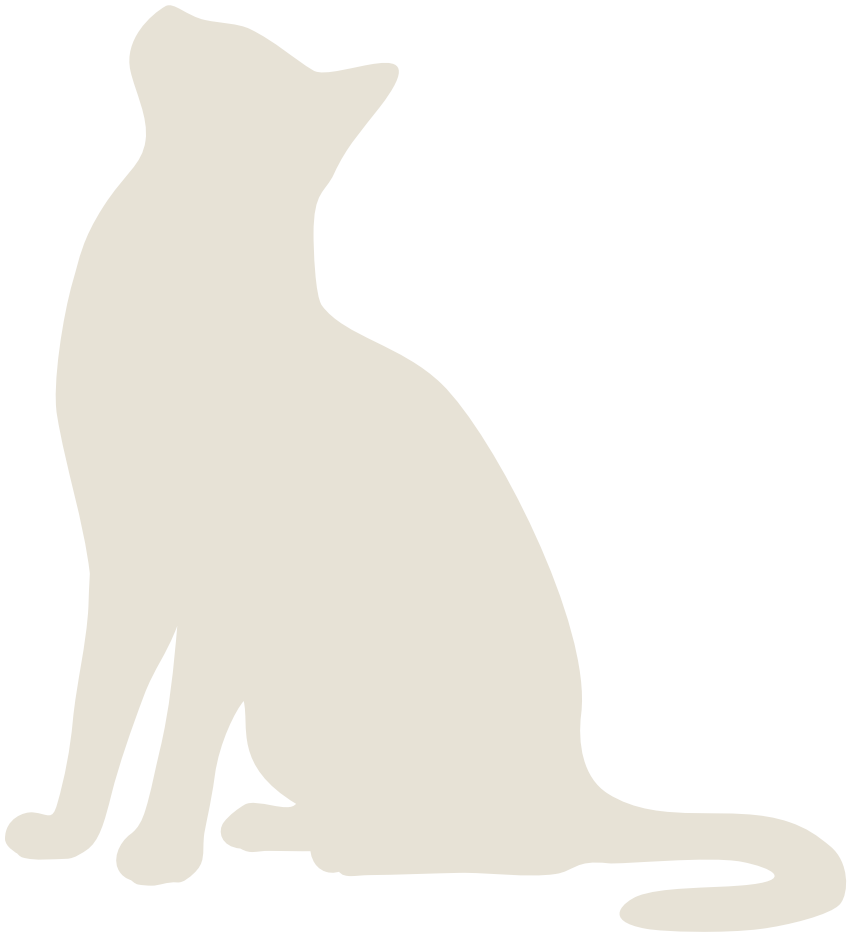
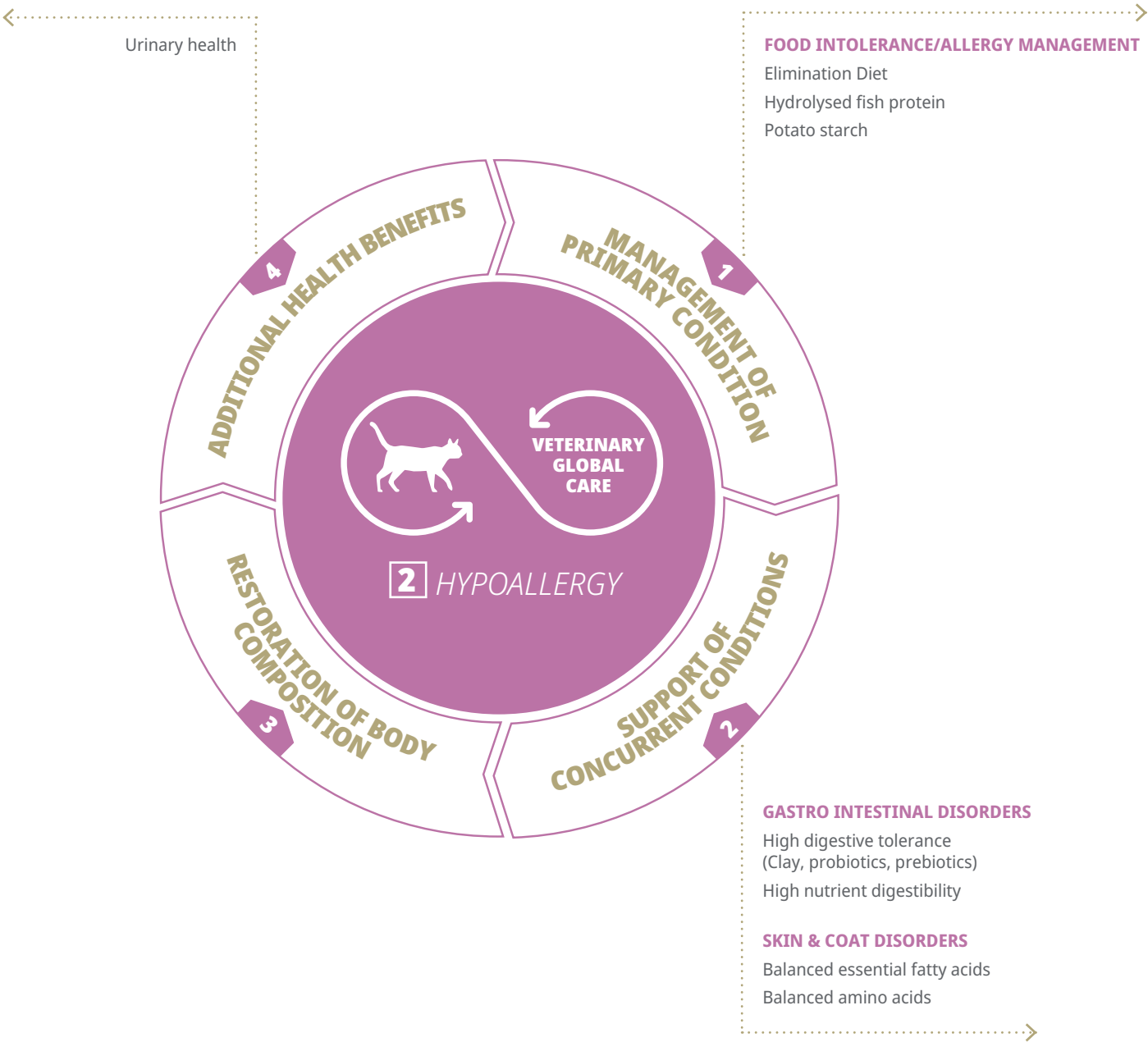
Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Underweight
2	20	20	25
3	30	35	35
4	40	45	50
5	50	55	60
6	60	65	75
7	70	80	85
8	80	90	100
9	90	100	110
10	100	110	125

The daily ration is based on the cat's CURRENT bodyweight, and must be adjusted every month.

*Adult neutered indoor cat with optimal body weight

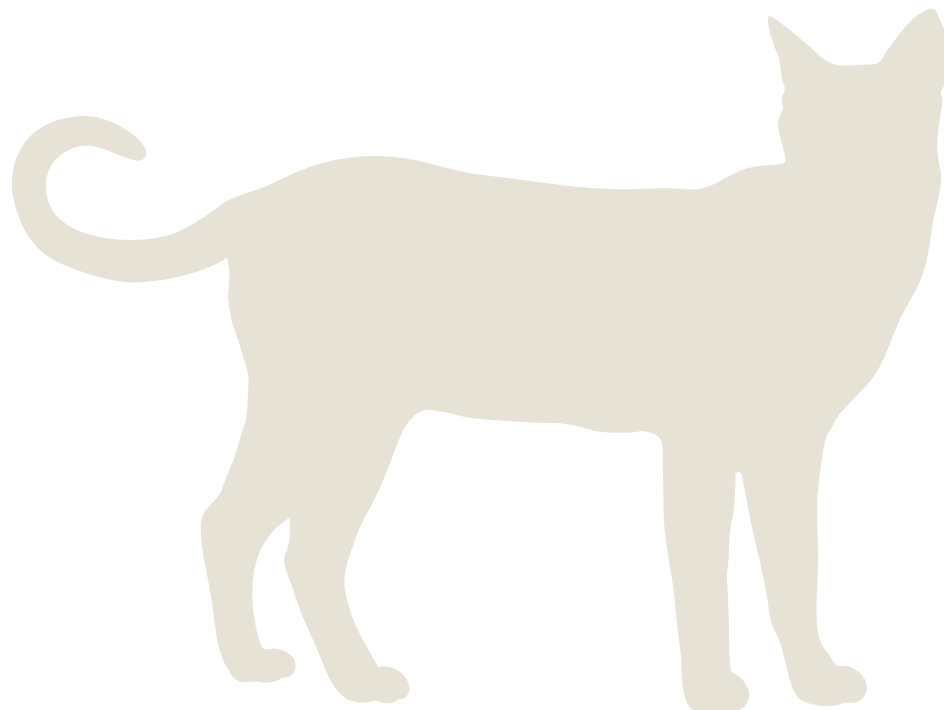


External laboratory analysis - Hydrolysis profile of Veterinary HPM® A2 for cats and Veterinary HPM® A2 for dogs, December 2025.
(1) I. Leriche et al. Assessment of the palatability and digestive tolerance in cats of a new diet based on hydrolysed salmon as the protein source. Internal data 2018.



KJ

KIDNEY & JOINT



› A UNIQUE NUTRITIONAL PROGRAMME FOR AGEING CAT CONDITIONS

- Osteoarthritis management.
- Gradual management of chronic kidney disease by stage.
- Highly palatable wet & dry food.



CAT WITH JOINT ISSUES

ADULT

CHECK THE BODY WEIGHT

Overweight

Optimal body condition



Body condition
optimal & stable



1 WEIGHT LOSS & DIABETES
Obesity (>30%) & Diabetes

2 WEIGHT LOSS & CONTROL
Overweight (<30%) & Diabetes

1 EARLY KIDNEY & JOINT

and/or



WET EARLY KIDNEY & JOINT

SENIOR

CHECK THE RENAL FUNCTION

Normal

IRIS Stage I

IRIS Stage II

IRIS Stage III

IRIS Stage IV



2 KIDNEY & JOINT

3 ADVANCED KIDNEY & JOINT

and/or



WET KIDNEY & JOINT

CAT WITH KIDNEY DYSFUNCTION

ADULT / SENIOR

CHECK THE RENAL FUNCTION

IRIS Stage I

IRIS Stage II

IRIS Stage III

IRIS Stage IV



1 EARLY KIDNEY & JOINT

2 KIDNEY & JOINT

3 ADVANCED KIDNEY & JOINT

and/or



WET EARLY KIDNEY & JOINT

and/or



WET KIDNEY & JOINT

NB: All these diets are contra-indicated during growth.
In case of joint issues in kittens, keep the baby diet + medical/nutraceutical management

NB: All these diets are contra-indicated during growth.
In case of kidney dysfunction, keep the baby diet + medical/nutraceutical management



➤ AVAILABLE FORMATS

- 1.5 kg, 3 kg

➤ DIETETIC INDICATIONS*

- Support of the metabolism of joints in case of osteoarthritis

➤ OTHER USE

- Support of the renal function in case of dysfunction at stage I (IRIS classification).

➤ CONTRAINDICATIONS

- Growth.
- Gestation & Lactation.

* Commission regulation (EU) 2020/354

➤ KEY BENEFITS & CHARACTERISTICS

> High Protein

The high level of proteins helps maintain muscle mass.

> Low Phosphorus

The phosphorus content is 25% lower versus Veterinary HPM Senior cat diet. The low phosphorus content helps protect the renal function.

> Muscle Mass Maintenance

The richness in proteins helps promote strong muscles to support joints and mobility.

> Body Condition Maintenance

The High Protein - Low Carbohydrate formulation helps maintain optimal body condition to limit mechanical constraints on joints.

> High Omega-3 & DHA

Specific fat sources provide high levels of omega-3 fatty acids, especially DHA, that helps limit inflammatory and painful processes in joints.

> Mobility Plus Complex

The association of Chondroitin Sulfate, Chitosan and Egg Shell Membrane helps maintain the cartilage integrity.

> Palatability Plus Complex

The richness in animal ingredients (52%) and the use of new specific ingredients guarantee high palatability for optimal compliance.

➤ ADDITIONAL BENEFITS & CHARACTERISTICS

> Phosphorus Binding ⁽¹⁾



The addition of Chitosan and Calcium Carbonate helps reduce the dietary phosphorus bioavailability.

> Suitable for Adult and Senior cats

The amounts of all essential nutrients fit the daily requirements of adult and senior cats.

> Increased Antioxidant Activity

The high level of vitamin E helps limit oxidative processes that could impair both joint metabolism and renal function.

> Protection of the Digestive Mucosa

Added Bentonite helps protect the digestive mucosa in case of concurrent anti-inflammatory therapy.

> Urinary Safety

Adjusted RSS (Relative SuperSaturation) indexes for struvites and oxalates help maintain urinary health.

➤ ANALYTICAL CONSTITUENTS
% as fed

• Moisture	5.5
• Protein	38
• Animal to vegetal protein ratio	92/08
• Fat	16.5
• Minerals	7.5
• Crude Fibre	6.5
• NFE*	26
• Starch	21
• Calcium	0.9
• Phosphorus	0.6
• Sodium	0.4
• Potassium	0.8
• Omega-6 fatty acids	2.5
• Omega-3 fatty acids	1.5
• DHA	0.4
• EPA	0.55

➤ KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	384
• ME** measured in vivo (kcal/100g)	385
• Protein digestibility (in vivo; %)	86
• Fat digestibility (in vivo; %)	94.5
• Energy from protein (%)	37
• Energy from fat (%)	39
• Energy from Carbohydrate (%)	24

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 26%

HIGH PROTEIN 38%

of ANIMAL ORIGIN 92%

➤ COMPOSITION

Dehydrated pork protein, potato starch, hydrolysed pork and poultry protein, animal fat, pea, minerals, lignocellulose, faba bean hulls, rice, fish oil, beet pulp, brewers yeast, hydrolysed fish protein, fructo-oligosaccharides, psyllium fibre, egg shell membrane, hydrolysed crustacean (source of chitosan), chondroitin sulfate, *Lactobacillus acidophilus*

➤ SPECIFIC INGREDIENTS/ADDITIVES

• Chondroitin Sulfate	1200 mg/kg
• Chitosan	1200 mg/kg
• Egg Shell Membrane	1200 mg/kg
• Calcium Carbonate	0.7 %
• Vitamin E	610 mg/kg
• Killed Lactobacilli	7 mg/kg
• Bentonite	5 g/kg

➤ FEEDING GUIDELINES



Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Underweight
2	20	25	30
3	35	35	40
4	45	50	55
5	55	60	70
6	65	75	85
7	75	85	95
8	90	100	110
9	100	110	125
10	110	125	140

The daily ration is based on the cat's CURRENT body weight, and should be adjusted every month.
Always provide a generous supply of fresh drinking water.

*Senior neutered indoor cat with optimal body weight



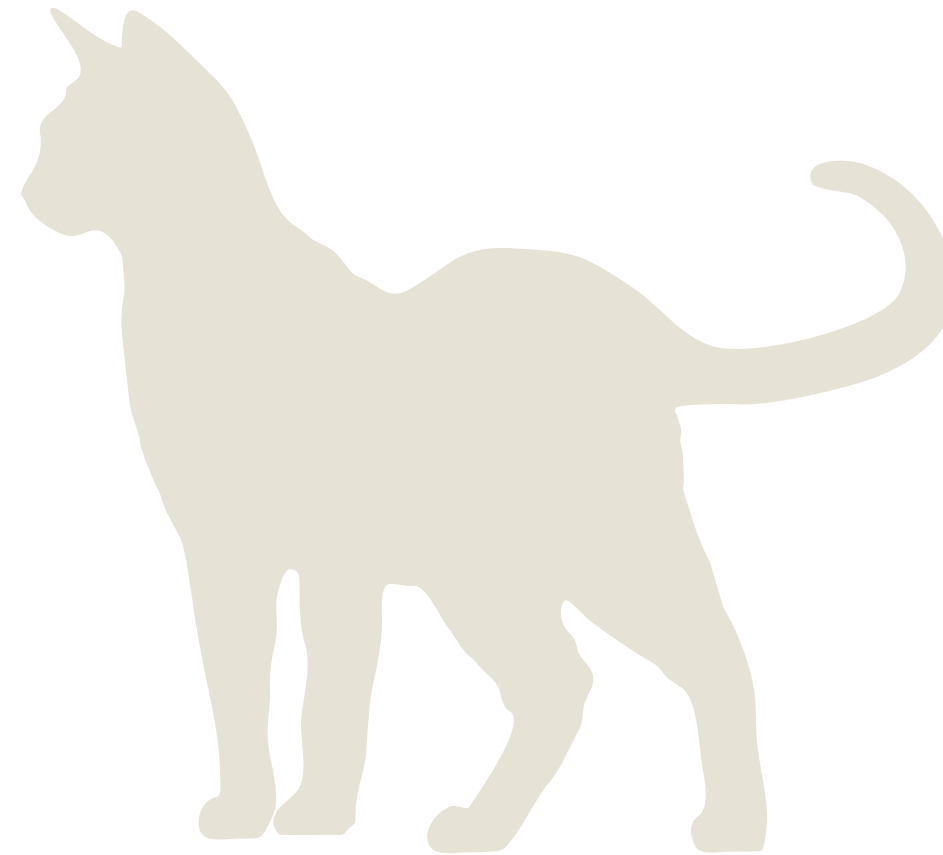
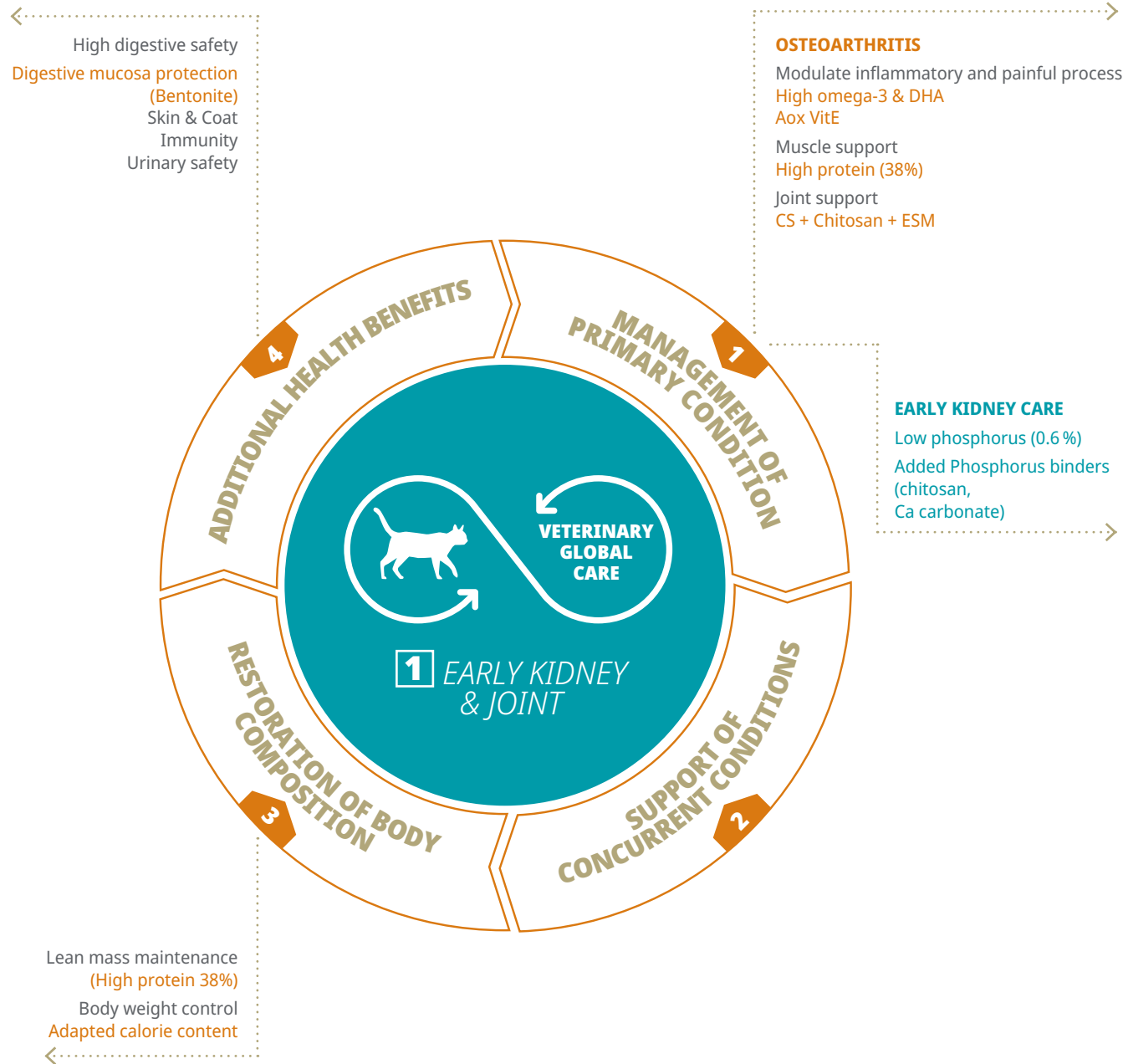
14% REDUCTION OF THE PHOSPHORUS APPARENT DIGESTIBILITY BY ADDING CHITOSAN ⁽¹⁾

OUR STUDIES

👉 Page 148



(1) I. Leriche et al. Effect of chitosan supplementation in a dry maintenance diet on phosphorus apparent digestibility in cats. SEVC Congress 2015.





AVAILABLE FORMATS

- 1.5 kg, 3 kg

DIETETIC INDICATIONS*

- Support of the metabolism of joints in case of osteoarthritis.
- Support of the renal function in case of chronic renal insufficiency.

OTHER USE

- Reduction of Calcium oxalate formation.

CONTRAINDICATIONS

- Growth.
- Gestation and lactation.

* Commission regulation (EU) 2020/354

KIDNEY & JOINT

2 KIDNEY & JOINT

KEY BENEFITS & CHARACTERISTICS

Moderate Protein

The protein content is reduced by 15% versus Veterinary HPM Early Kidney & Joint cat diet. This content and the high quality of proteins allow both muscle mass preservation and uremic toxin reduction.

Low Phosphorus

The phosphorus content is reduced by 15% versus Veterinary HPM Early kidney & Joint cat diet. The low phosphorus content helps protect the renal function.

Muscle Mass Preservation

The dietary protein intake helps promote strong muscles to support joints and mobility.

High Energy & Concentration

The High energy density of the diet ensures small and concentrated daily rations to compensate for reduced appetite and support patients against undernutrition.

High Omega-3 & DHA

Specific fat sources provide high levels of omega-3 fatty acids, especially DHA, that helps limit inflammatory and painful processes in joints.

Mobility Plus Complex

The association of Chondroitin Sulfate, Chitosan and Egg Shell Membrane helps maintain the cartilage integrity.

Palatability Plus Complex

The richness in animal ingredients (52%) and the use of new specific ingredients guarantee high palatability for optimal compliance.

ADDITIONAL BENEFITS & CHARACTERISTICS

Phosphorus Binding⁽¹⁾



The addition of Chitosan and Calcium Carbonate helps reduce the dietary phosphorus bioavailability.

Suitable for Adult and Senior cats

The amounts of all essential nutrients fit the daily requirements of adult and senior cats.

Increased Antioxidant Activity

The high level of vitamin E helps limit oxidative processes that could impair both joint metabolism and renal function.

Urinary Safety

Adjusted RSS (Relative SuperSaturation) indexes for struvites and oxalates help maintain urinary health.

ANALYTICAL CONSTITUENTS % as fed

Moisture	5.5
Protein	35
Animal to vegetal protein ratio	89/11
Fat	20
Minerals	7.5
Crude Fibre	3.5
NFE*	28.5
Starch	24
Calcium	1
Phosphorus	0.55
Sodium	0.4
Potassium	0.8
Omega-6 fatty acids	3
Omega-3 fatty acids	1.5
DHA	0.4
EPA	0.55

KEY NUTRIENT VALUES

ME** calculated (kcal/100g)***	412
ME** measured in vivo (kcal/100g)	410
Protein digestibility (in vivo; %)	84
Fat digestibility (in vivo; %)	92.5
Energy from protein (%)	31
Energy from fat (%)	44
Energy from Carbohydrate (%)	25

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 28.5%

HIGH PROTEIN 35%

of ANIMAL ORIGIN 89%

COMPOSITION

Dehydrated pork protein, rice, animal fat, pea, hydrolysed pork and poultry protein, potato starch, minerals, fish oil, beet pulp, lignocellulose, brewers yeast, hydrolysed fish protein, psyllium fibre, fructo-oligosaccharides, egg shell membrane, hydrolysed crustacean (source of chitosan), chondroitin sulfate, *Lactobacillus acidophilus*.

SPECIFIC INGREDIENTS/ADDITIVES

Chondroitin Sulfate	1200 mg/kg
Chitosan	1200 mg/kg
Egg Shell Membrane	1200 mg/kg
Calcium Carbonate	1 %
Vitamin E	610 mg/kg
Killed Lactobacilli	7 mg/kg
Bentonite	5 g/kg

FEEDING GUIDELINES



Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Underweight
2	20	20	25
3	30	30	35
4	35	40	50
5	45	50	60
6	55	60	75
7	65	70	85
8	75	80	100
9	85	90	110
10	90	105	125

The daily ration is based on the cat's CURRENT body weight, and should be adjusted every month. Always provide a generous supply of fresh drinking water.

*Senior neutered indoor cat with optimal body weight



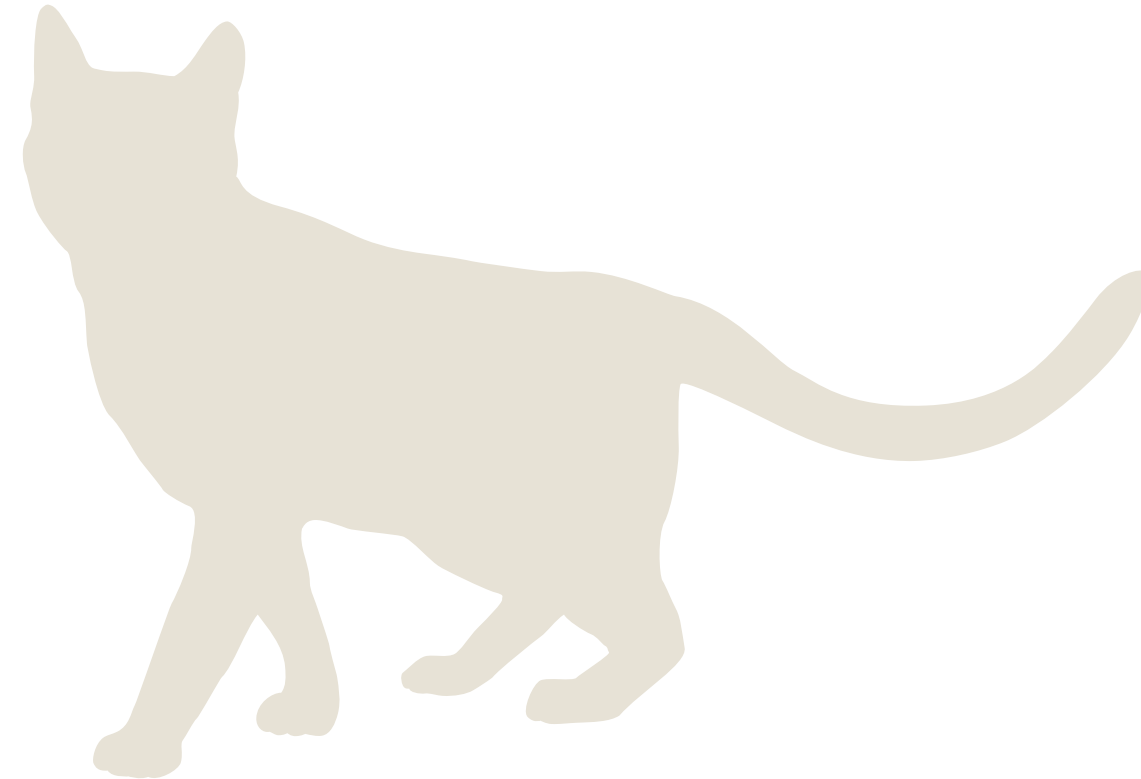
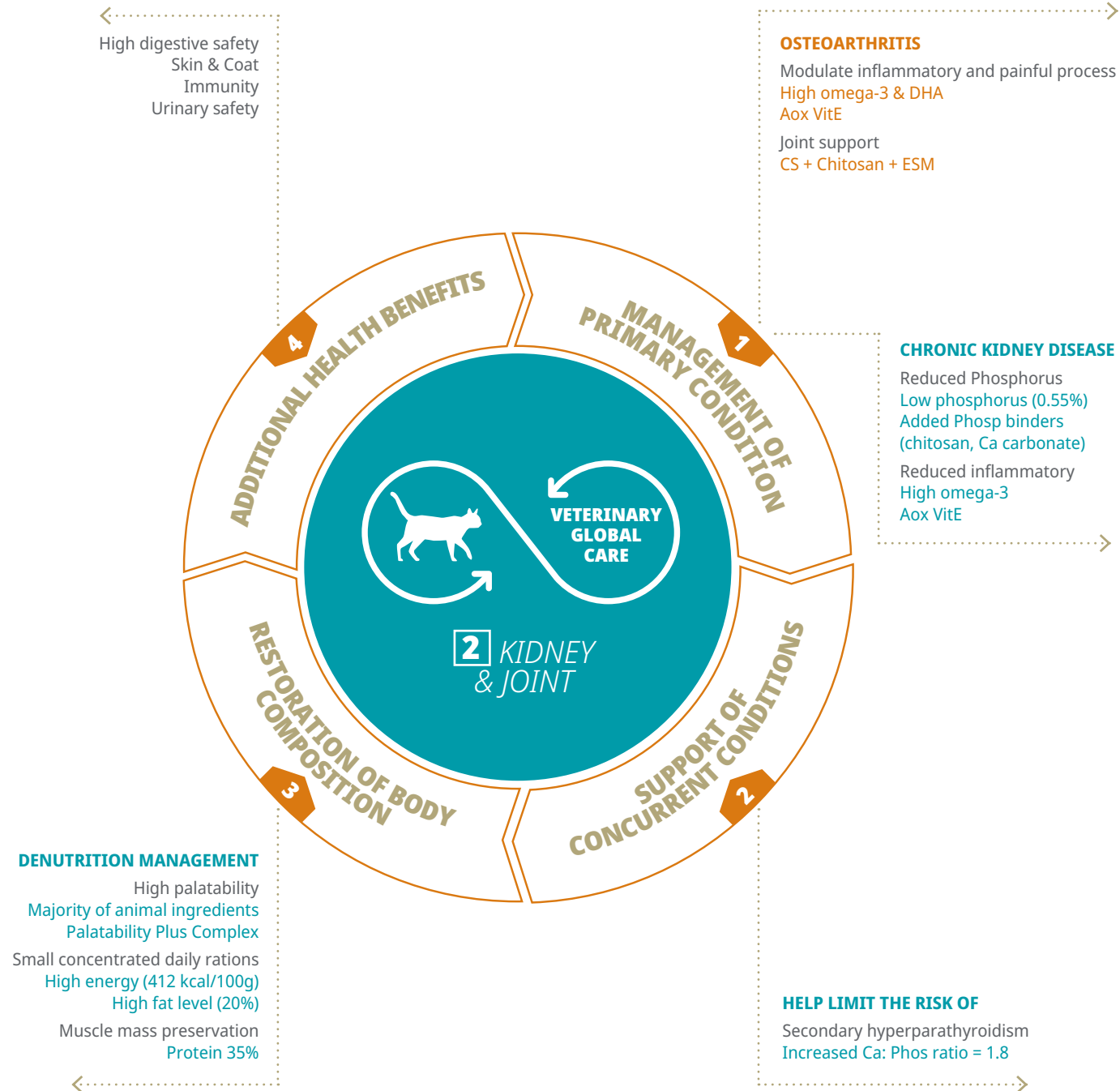
14% REDUCTION OF THE PHOSPHORUS APPARENT DIGESTIBILITY BY ADDING CHITOSAN⁽¹⁾

OUR STUDIES

Page 148



(1) I. Leriche et al. Effect of chitosan supplementation in a dry maintenance diet on phosphorus apparent digestibility in cats. SEVC Congress 2015.





AVAILABLE FORMATS

- 400 g, 1.5 kg, 3 kg

DIETETIC INDICATIONS*

- Support of the metabolism of joints in case of osteoarthritis.
- Support of the renal function in case of chronic renal insufficiency.

OTHER USE

- Chronic hepatic disorders.

CONTRAINDICATIONS

- Growth.
- Gestation and lactation.

* Commission regulation (EU) 2020/354

KIDNEY & JOINT

3

ADVANCED KIDNEY & JOINT

KEY BENEFITS & CHARACTERISTICS

Limited Protein

The protein content is reduced by 15% versus Veterinary HPM Kidney & Joint cat diet. This content, combined with the high quality of proteins, helps limit the production of uremic toxins and maintain quality of life.

Very Low Phosphorus

The phosphorus content is reduced by 10% versus Veterinary HPM Kidney & Joint cat diet. This restricted level helps slow down the evolution of the renal disease and minimizes the risk of secondary hyperparathyroidism.

High Energy & Concentration

The High energy density of the diet allows small and concentrated daily rations to compensate for reduced appetite and support patients against undernutrition.

Phosphorus Binding (1)

The addition of Chitosan and Calcium Carbonate helps reduce the dietary phosphorus bioavailability.

High Omega-3 & DHA

Specific fat sources provide high levels of omega-3 fatty acids, especially DHA, that helps limit inflammatory processes in joints and kidneys.

Mobility Plus Complex

The association of Chondroitin Sulfate, Chitosan and Egg Shell Membrane helps maintain the cartilage integrity.

Palatability Plus Complex

The richness in animal ingredients (46%) and the use of new specific ingredients guarantee high palatability for optimal compliance.

ADDITIONAL BENEFITS & CHARACTERISTICS

Increased Antioxidant Activity

The high level of vitamin E helps limit oxidative processes that could impair both renal function and joint metabolism.

Suitable for Adult and Senior cats

The amounts of all essential nutrients fit the daily requirements of adult and senior cats.

Protection of the Digestive Mucosa

Added bentonite helps protect the digestive mucosa against damages linked to uremia.

Urinary Safety

Adjusted RSS (Relative SuperSaturation) indexes for struvites and oxalates help maintain urinary health.

Limits the risk of metabolic acidosis

The addition of an alkalising agent (calcium carbonate) helps limit the risk of metabolic acidosis.

Limits the risk of hyperparathyroidism

The adapted calcium content of the diet, with increased Calcium: Phosphorus ratio = 2, helps limit the side effects of high phosphatemia and the risk of secondary hyperparathyroidism.

ANALYTICAL CONSTITUENTS % as fed

• Moisture	5.5
• Protein	30
• Animal to vegetal protein ratio	86/14
• Fat	21
• Minerals	7
• Crude Fibre	3.5
• NFE*	33
• Starch	28
• Calcium	1
• Phosphorus	0.5
• Sodium	0.4
• Potassium	0.8
• Omega-6 fatty acids	3.2
• Omega-3 fatty acids	1.5
• DHA	0.4
• EPA	0.55

KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	415
• ME** measured in vivo (kcal/100g)	410
• Protein digestibility (in vivo; %)	84
• Fat digestibility (in vivo; %)	92.5
• Energy from protein (%)	26
• Energy from fat (%)	45
• Energy from Carbohydrate (%)	29

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 33%

HIGH PROTEIN 30%

of ANIMAL ORIGIN 86%

COMPOSITION

Dehydrated pork protein, rice, animal fat, potato starch, pea, hydrolysed pork and poultry protein, minerals, fish oil, beet pulp, lignocellulose, brewers yeast, hydrolysed fish protein, psyllium fibre, fructo-oligosaccharides, egg shell membrane, hydrolysed crustacean (source of chitosan), chondroitin sulfate, *Lactobacillus acidophilus*.

SPECIFIC INGREDIENTS/ADDITIVES

• Chondroitin Sulfate	1200 mg/kg
• Chitosan	1200 mg/kg
• Egg Shell Membrane	1200 mg/kg
• Calcium Carbonate	1 %
• Vitamin E	610 mg/kg
• Killed Lactobacilli	7 mg/kg
• Bentonite	5 g/kg

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)	
	Normal*	Underweight
2	20	25
3	30	35
4	40	50
5	50	60
6	60	70
7	70	85
8	80	100
9	90	110
10	100	120

The daily ration is based on the cat's CURRENT body weight, and should be adjusted every month. Always provide a generous supply of fresh drinking water.



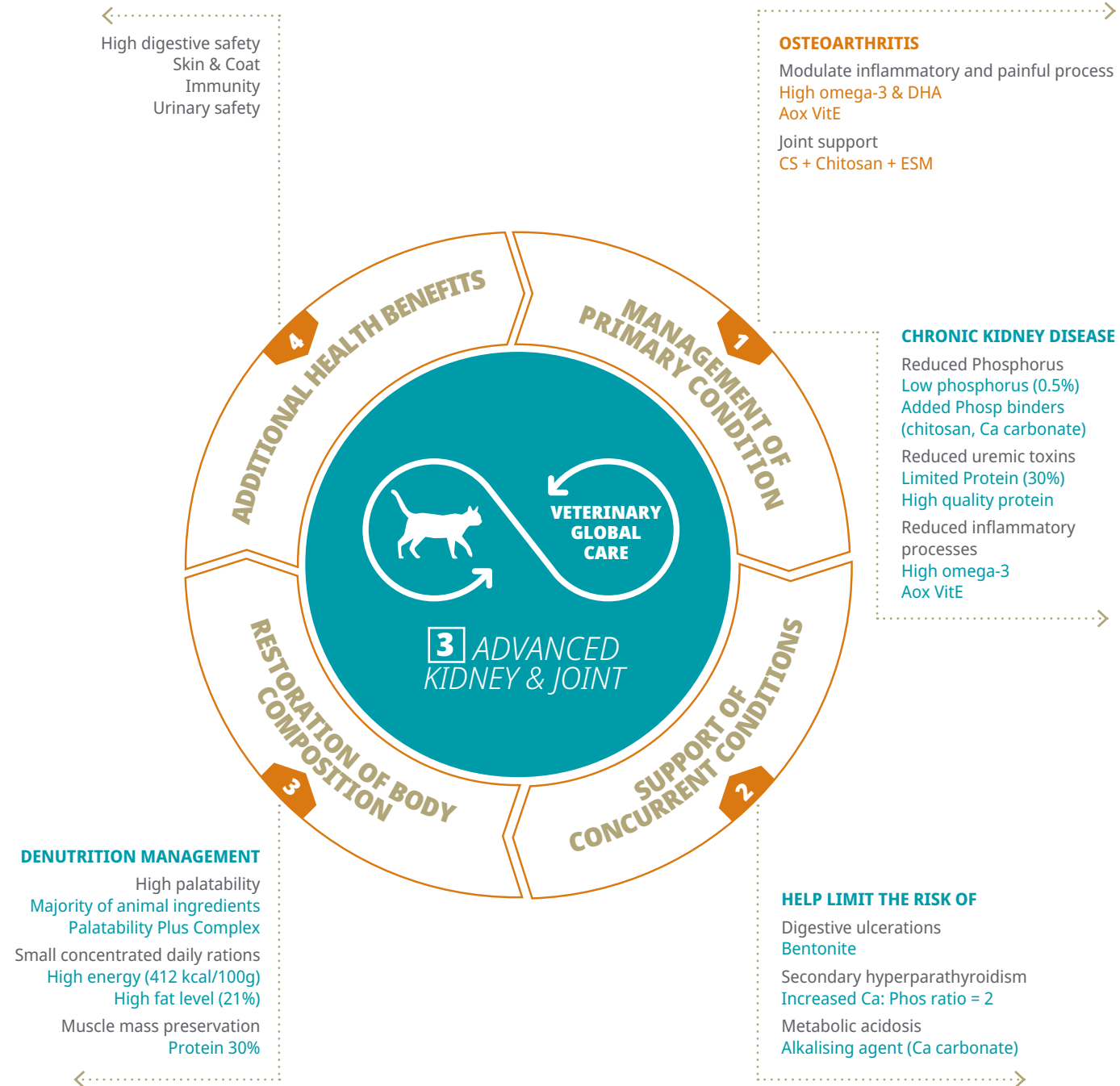
14% REDUCTION OF THE PHOSPHORUS APPARENT DIGESTIBILITY BY ADDING CHITOSAN (1)

OUR STUDIES

Page 148



(1) I. Leriche et al. Effect of chitosan supplementation in a dry maintenance diet on phosphorus apparent digestibility in cats. SEVC Congress 2015.





➤ AVAILABLE FORMATS

- 12 x 85g pouch box

➤ DIETETIC INDICATIONS*

- Support of the metabolism of joints in case of osteoarthritis.

➤ OTHER USE

- Support of the renal function in case of dysfunction at stage I (IRIS classification).

➤ CONTRAINDICATIONS

- Growth.
- Gestation and lactation.

* Commission regulation (EU) 2020/354

➤ KEY BENEFITS & CHARACTERISTICS

> High Protein

The high level of proteins helps maintain muscle mass.

> Low Phosphorus

The low phosphorus content helps maintain the renal function.

> Muscle Mass Maintenance

The richness in proteins helps promote strong muscles to support joints and mobility.

> High Omega-3 & DHA

A specific fat source provides high levels of omega-3 fatty acids, especially DHA, that helps limit inflammatory and painful processes in joints.

> Mobility Plus Complex

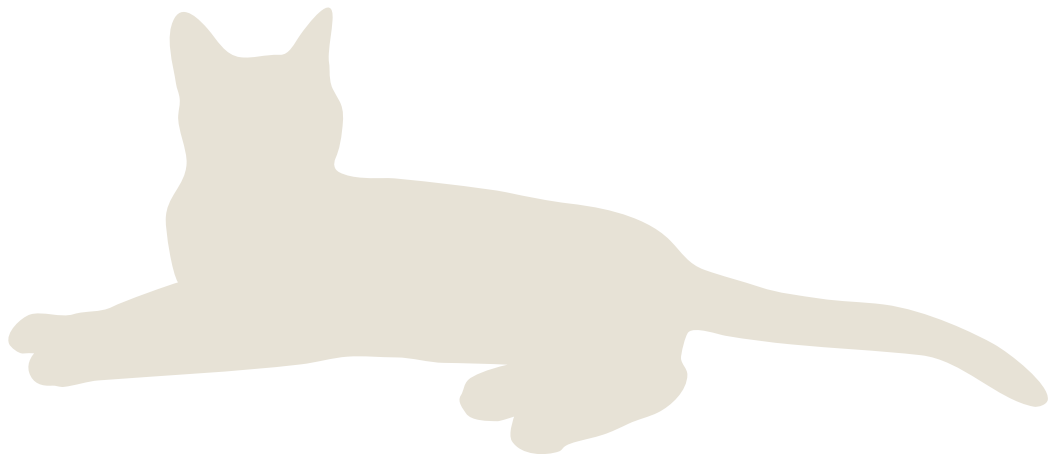
The association of Chondroitin Sulfate, Chitosan and Egg Shell Membrane helps maintain the cartilage integrity.

> Supports Hydration

The high moisture content of the wet diet naturally increases total water intake.

> High Palatability

The richness in animal ingredients (88%) and the macronutrient share (high protein / very low carbohydrate) respect the natural preferences of cats to guarantee high palatability and optimal compliance.



➤ ANALYTICAL CONSTITUENTS
% as fed

• Moisture	78.5
• Protein	12
• Animal to vegetal protein ratio	100/00
• Fat	5.5
• Minerals	2
• Crude Fibre	0.8
• NFE*	1.2
• Starch	0.8
• Calcium	0.25
• Phosphorus	0.17
• Sodium	0.2
• Potassium	0.22
• Omega-6 fatty acids	1.5
• Omega-3 fatty acids	0.5
• DHA	0.15
• EPA	0.2

➤ KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	99
• ME** measured in vivo (kcal/100g)	97
• Protein digestibility (in vivo; %)	88.5
• Fat digestibility (in vivo; %)	96
• Energy from protein (%)	47
• Energy from fat (%)	48
• Energy from Carbohydrate (%)	5

* Nitrogen Free Extract

** Metabolisable energy

*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 1.2%

HIGH PROTEIN 12%

of ANIMAL ORIGIN 100%

➤ COMPOSITION

Chunks (50%): pork kidney, chicken gizzard, pork lung lobe, chicken liver, chicken skin, chicken neck, egg white, pork plasma, minerals and vitamins, fish oil, sunflower oil, lignocellulose, digest, cellulose, potato starch, caramel, hydrolysed crustacean (source of chitosan), egg shell membrane. **Gravy (50%):** water, tapioca starch, caramel.

➤ SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	1000 mg/kg
• Chondroitin Sulfate	300 mg/kg
• Chitosan	300 mg/kg
• Egg Shell Membrane	300 mg/kg

➤ FEEDING GUIDELINES



IF EXCLUSIVE FEEDING WITH WET

Body Weight (kg)	Overweight	Normal*	Underweight
	pouch / day	pouch / day	pouch / day
2	1.0	1	1.5
3	1.5	1.5	2
4	2.0	2.5	2.5
5	2.5	3	3
6	3.0	3.5	4
7	3.5	4	4.5
8	4.0	4.5	5
9	4.5	5	5.5
10	5.0	5.5	6.5

Mixed feeding is possible, combining Veterinary HPM Wet and Dry Early Kidney Joint diets. We propose to provide around 50% of the energy need with wet and 50% with dry, but all combinations are possible depending on the individual case.

IF FEEDING RATION COMPOSED WITH BOTH WET AND DRY
VET HPM EARLY KIDNEY JOINT CAT

Body Weight (kg)	Overweight		Normal*		Underweight	
	Wet (pouch)	Dry (g/day)	Wet (pouch)	Dry (g/day)	Wet (pouch)	Dry (g/day)
2	0.5	10	0.5	15	0.5	15
3	0.5	20	0.5	25	1	20
4	1	20	1	30	1	35
5	1	35	1	40	1	45
6	1	45	1	50	2	40
7	1	55	2	45	2	55
8	2	45	2	55	2	65
9	2	55	2	70	2	80
10	2	65	2	80	2	95

*Senior neutered indoor cat with optimal body weight



AVAILABLE FORMATS

- 12 x 85g pouch box

DIETETIC INDICATIONS*

- Support of the metabolism of joints in case of osteoarthritis.
- Support of renal function in case of chronic renal insufficiency.

OTHER USE

- Chronic hepatic disorders.

CONTRAINDICATIONS

- Growth.
- Gestation and lactation.

* Commission regulation (EU) 2020/354

KIDNEY & JOINT

WET

KIDNEY & JOINT

KEY BENEFITS & CHARACTERISTICS

Limited Protein

The protein content is reduced by 28% versus Veterinary HPM WET EARLY Kidney & Joint. This content helps limit the production of uremic toxins and maintain quality of life.

Very Low Phosphorus

The phosphorus content is reduced by 30% versus Veterinary HPM WET EARLY Kidney & Joint. This restricted level helps slow down the evolution of the renal disease and minimizes the risk of secondary hyperparathyroidism.

Reduces dehydration

The high moisture content of the wet diet naturally increases total water intake and helps compensate for dehydration.

Body Condition Preservation

The increased energy density (+ 25% versus Veterinary HPM WET EARLY Kidney & Joint) and the adapted protein intake help compensate for poor appetite and support patients against undernutrition and loss of lean mass.

High Omega-3 & DHA

A specific fat source provides high levels of omega-3 fatty acids, especially DHA, that helps limit inflammatory and painful processes in joints.

Mobility Plus Complex

The association of Chondroitin Sulfate, Chitosan and Egg Shell Membrane helps maintain the cartilage integrity.

High Palatability

The richness in animal ingredients (93%) guarantees high palatability for optimal compliance and poor appetite compensation.



ANALYTICAL CONSTITUENTS
% as fed

• Moisture	76
• Protein	11
• Animal to vegetal protein ratio	100/00
• Fat	9
• Minerals	2
• Crude Fibre	0.8
• NFE*	1.2
• Starch	0.4
• Calcium	0.28
• Phosphorus	0.15
• Sodium	0.2
• Potassium	0.28
• Omega-6 fatty acids	2.5
• Omega-3 fatty acids	1.0
• DHA	0.3
• EPA	0.5

KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	124
• ME** measured in vivo (kcal/100g)	124
• Protein digestibility (in vivo; %)	87
• Fat digestibility (in vivo; %)	95
• Energy from protein (%)	34
• Energy from fat (%)	62
• Energy from Carbohydrate (%)	4

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 1.2%

HIGH PROTEIN 11%

of ANIMAL ORIGIN 100%

COMPOSITION

Loaf: chicken liver, pork kidney, pork heart, pork lung lobe, fish oil, sunflower oil, chicken neck, egg white, minerals and vitamins, pork plasma, lignocellulose, digest, cellulose, caramel, hydrolysed crustacean (source of chitosan), egg shell membrane.

SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	1000 mg/kg
• Chondroitin Sulfate	200 mg/kg
• Chitosan	300 mg/kg
• Egg Shell Membrane	300 mg/kg

FEEDING GUIDELINES



IF EXCLUSIVE FEEDING WITH WET

Body Weight (kg)	Normal*	Underweight
	pouch / day	pouch / day
2	1	1
3	1	1.5
4	1.5	2
5	2	2.5
6	2.5	3
7	3	3.5
8	3	4
9	3.5	4.5
10	4	5

Mixed feeding is possible, combining Veterinary HPM Wet and Dry Kidney Joint or Dry Advanced Kidney Joint diets. We propose to provide around 50% of the energy need with wet and 50% with dry, but all combinations are possible depending on the individual case.

IF FEEDING RATION COMPOSED WITH BOTH WET AND DRY
VET HPM EARLY KIDNEY JOINT CAT

Body Weight (kg)	Normal*		Underweight	
	Wet (pouch)	Dry (g/day)	Wet (pouch)	Dry (g/dWay)
2	0.5	5	0.5	10
3	0.5	20	0.5	25
4	0.5	30	1	25
5	1	25	1	35
6	1	35	1	50
7	1	45	1	60
8	1	55	2	45
9	1	65	2	60
10	2	50	2	70

*Senior neutered indoor cat with optimal body weight

NUTRITIONAL INFORMATION



AS FED (%)	UROLOGY DISSOL	UROLOGY DISSOL & PREV	URINARY WIB	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	DIGESTIVE SUPPORT	DERMATOLOGY SUPPORT	HYPOALLERGY FISH	EARLY KIDNEY & JOINT	KIDNEY & JOINT	ADVANCED KIDNEY & JOINT
Moisture	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Protein	44	44	44	44	44	44	44	31	38	35	30
Animal to vegetal protein ratio	90/10	90/10	90/10	94/06	90/10	92/08	91/09	100/00	92/08	89/11	86/14
Fat	16	13.5	13.5	11	12	21	17.5	16	16.5	20	21
Minerals	7.5	7.5	7.5	8.5	8.5	8.5	8.5	7.5	7.5	7.5	7
Crude cellulose	4	6.5	6.5	13	11.5	3.5	5	4	6.5	3.5	3.5
Total dietary fibre	7.5	12	12	17.5	16.5	6	9	9	12.5	9.5	9.5
Starch	15	15	15	12.5	12	13	14	32	21	24	28
Calcium	0.65	0.7	0.7	1.3	1.3	1.3	1.3	0.8	0.9	1	1
Phosphorus	0.65	0.7	0.7	0.9	1.1	1.1	1.1	0.7	0.6	0.55	0.5
Ca/p ratio	1.0	1.0	1.0	1.4	1.2	1.2	1.2	1.1	1.5	1.8	2
Sodium	1.3	1.1	1.1	0.9	0.7	0.9	0.7	0.7	0.4	0.4	0.4
Potassium	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.8	0.8	0.8
Magnesium	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.06	0.06	0.06
Omega-6	2.5	2.2	2.2	2.0	2.1	3.5	3.5	3.0	2.5	3.0	3.2
Omega-3	1	0.7	1.1	0.7	0.7	1	1.1	0.7	1.5	1.5	1.5
Nitrogen free extract (NFE)	23.0	23.0	23.0	18.0	18.5	17.5	19.5	36.0	26.0	28.5	33.0
Metabolisable Energy (ME) (NRC 2006) (kcal/100g)	397	374	374	331	342	418	395	389	384	412	415
In vivo measured ME (kcal/100g)	385	364	364	306	325	419	437	383	385	410	410
Protein to calorie ratio (NRC 2006) (g/Mcal)	111	118	118	133	129	105	111	80	99	85	72
Calorie from protein (%)	42	44	44	50	48	39	42	29	37	31	26
Calorie from fat (%)	37	33	33	30	32	45	40	37	39	44	45
Calorie from NFE (%)	21	23	23	20	20	16	18	34	24	25	29
Urinary pH	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	6.2 - 6.7	6.5 - 7.0	6.5 - 7.0
Struvite RSS	<1	<1	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Oxalate RSS	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
Added vitamins & trace elements:											
Vitamin A (IU/kg)	17000	17000	17000	20000	17000	19600	17000	17000	17000	17000	17000
Vitamin D3 (IU/kg)	1700	1700	1700	2000	1700	1700	1700	1700	1700	1700	1700
Vitamin E (mg/kg)	610	610	610	700	610	610	610	610	610	610	610
Vitamin K3 (mg/kg)	0.22	0.22	0.22	0.25	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Vitamin B1 thiamine) (mg/kg)	11.2	11.2	11.2	13	11.2	11.2	11.2	11.2	11.2	11.2	11.2
Vitamin B2 (riboflavine) (mg/kg)	8	8	8	9	8	8	8	8	8	8	8
Vitamin B3 (PP, niacine, nicotinic ac) (mg/kg)	113.4	113.4	113.4	130	113.4	113.4	113.4	113.4	113.4	113.4	113.4
Vitamin B5 (pantothenic ac) (mg/kg)	14.5	14.5	14.5	17.4	14.5	14.5	14.5	14.5	14.5	14.5	14.5
Vitamin B6 (pyridoxine) (mg/kg)	7.6	7.6	7.6	9.1	7.6	7.6	7.6	7.6	7.6	7.6	7.6
Vitamin B8 (biotine, vitamin H) (mg/kg)	0.15	0.15	0.15	0.18	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Vitamin B9 (folic ac) (mg/kg)	1.9	1.9	1.9	2.2	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Vitamin B12 (cobalamine) (mg/kg)	0.046	0.046	0.046	0.055	0.046	0.053	0.046	0.046	0.046	0.046	0.046
Choline (mg/kg)	1760	1760	1760	2100	2100	1760	1760	1760	1760	1760	1760
Taurine (mg/kg)	2460	2460	2460	2900	2460	2460	2460	2460	2460	2460	2460
Copper (mg/kg)	12	12	12	14	12	12	12	12	12	12	12
Iodine (mg/kg)	0.4	0.4	0.4	0.45	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Zinc (mg/kg)	110	110	110	130	110	126	110	110	110	110	110
Specific functional ingredients / additives:											
Bentonite (g/kg)	5	5	5	5	5	5	5	5	5	5	5
Lactobacillus acidophilus (mg/kg)	7	7	7	7	7	7	7	7	7	7	7
Beta-glucan (mg/kg)	0	0	0	0	0	500	0	0	0	0	0
L-carnitine (mg/kg)	540	540	540	540	540	0	540	540	540	540	540
Chitosan (mg/kg)	800	800	800	800	800	800	800	800	1200	1200	1200
Chondroitine sulfate (mg/kg)	0	0	0	440	215	0	0	0	1200	1200	1200
Egg shell membrane (mg/kg)	0	0	0	0	0	0	0	0	1200	1200	1200
Nucleotides (mg/kg)	0	0	0	0	0	560	0	0	0	0	0
Butyrate (mg/kg)	0	0	0	0	0	430	0	0	0	0	0
K citrate (%)	0.3	0.3	0.3	0	0	0	0	0	0	0	0
Ca carbonate (%)	0	0	0	0	0	0	0	0	0.7	1	1
Green tea concentrate (%)	0	0	0.26	0	0	0	0	0	0	0	0

DRY FELINE DIETETIC RANGE



ON DRY MATTER (%)	UROLOGY DISSOL	UROLOGY DISSOL & PREV	Urinary WIB	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	DIGESTIVE SUPPORT	DERMATOLOGY SUPPORT	HYPOALLERGY FISH	EARLY KIDNEY & JOINT	KIDNEY & JOINT	ADVANCED KIDNEY & JOINT
Protein	46.6	46.6	46.6	46.6	46.6	46.6	46.6	32.8	40.2	37	31.7
Fat	16.9	14.3	14.3	11.6	12.7	22.2	18.5	16.9	17.5	21.2	22.2
Minerals	7.9	7.9	7.9	9.0	9.0	9.0	9.0	7.9	7.9	7.9	7.4
Crude cellulose	4.2	6.9	6.9	13.8	12.2	3.7	5.3	4.2	6.9	3.7	3.7
Total dietary fibre	7.9	12.7	12.7	18.5	17.5	6.3	9.5	9.5	13.2	10.1	10.1
Starch	15.9	15.9	15.9	13.2	12.7	13.8	14.8	33.9	22.2	25.4	29.6
Calcium	0.7	0.7	0.7	1.4	1.4	1.4	1.4	0.8	0.95	1.06	1.06
Phosphorus	0.7	0.7	0.7	1.0	1.2	1.2	1.2	0.7	0.63	0.58	0.53
Ca/P ratio	1.0	1.0	1.0	1.4	1.2	1.2	1.2	1.1	1.5	1.8	2.0
Sodium	1.4	1.2	1.2	1.0	0.7	1.0	0.7	0.7	0.4	0.4	0.4
Potassium	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.8	0.8	0.8
Magnesium	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Omega-6	2.6	2.3	2.3	2.1	2.2	3.7	3.7	3.2	2.6	3.2	3.4
Omega-3	1.1	0.7	1.2	0.7	0.7	1.1	1.2	0.7	1.6	1.6	1.6
Nitrogen Free Extract (NFE)	24.3	24.3	24.3	19.0	19.6	18.5	20.6	38.1	27.5	30.2	34.9
Metabolisable Energy (ME) (NRC 2006) (kcal/100g)	420	396	396	350	362	442	418	412	406	436	439

ON 1000 KCAL (G)	UROLOGY DISSOL	UROLOGY DISSOL & PREV	URINARY WIB	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	DIGESTIVE SUPPORT	DERMATOLOGY SUPPORT	HYPOALLERGY FISH	EARLY KIDNE & JOINT	KIDNEY & JOINT	ADVANCED KIDNEY & JOINT
Protein	110.8	117.6	117.6	131.3	123.2	105.3	111.4	79.7	99	85	72.3
Fat	40.3	36.1	36.1	33.2	35.1	50.2	44.3	41.1	43.0	48.5	50.6
Minerals	18.9	20.1	20.1	25.7	24.9	20.3	21.5	19.3	19.5	18.2	16.9
Crude cellulose	10.1	17.4	17.4	39.3	33.6	8.4	12.7	10.3	16.9	8.5	8.4
Total dietary fibre	18.9	32.1	32.1	52.9	48.2	14.4	22.8	23.1	32.6	23.1	22.9
Starch	37.8	40.1	40.1	37.8	35.1	31.1	35.4	82.3	54.7	58.3	67.5
Calcium	1.6	1.9	1.9	3.9	3.6	3.1	3.3	2.1	2.34	2.43	2.41
Phosphorus	1.6	1.9	1.9	2.7	3.2	2.6	2.8	1.8	1.56	1.33	1.20
Ca/P ratio	1.0	1.0	1.0	1.4	1.2	1.2	1.2	1.1	1.5	1.8	2.0
Sodium	3.3	2.9	2.9	2.7	2.0	2.2	1.8	1.8	1.0	1.0	1.0
Potassium	1.8	1.9	1.9	2.1	2.0	1.9	1.8	1.8	2.1	1.9	1.9
Magnesium	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Omega-6	6.3	5.9	5.9	6.0	6.1	8.4	8.9	7.7	6.5	7.3	7.7
Omega-3	2.5	1.9	2.9	2.1	2.0	2.4	2.8	1.8	3.9	3.6	3.6
Nitrogen Free Extract (NFE)	57.9	61.5	61.5	54.4	54.1	41.9	49.4	92.5	67.7	69.2	79.5

NUTRITIONAL INFORMATION



AS FED (%)	WET - DISSOLUTION AND PREVENTION	WET - DIGESTIVE SUPPORT	WET - EARLY KIDNEY & JOINT	WET - KIDNEY& JOINT
Moisture	79.5	72	78.5	76
Protein	11	14	12	11
Animal/vegetal protein ratio	89/11	84/16	100/00	100/00
Fat	4.5	8.5	5.5	9
Minerals	2.1	2.3	2.0	2.0
Crude cellulose	0.8	0.9	0.8	0.8
Starch	0.8	0.4	0.8	0.4
Calcium	0.22	0.25	0.25	0.28
Phosphorus	0.15	0.2	0.17	0.15
Ca/P ratio	1.1	1.3	1.5	1.9
Sodium	0.3	0.3	0.2	0.2
Potassium	0.23	0.3	0.22	0.28
Magnesium	0.014	0.02	0.014	0.014
Omega-6	0.85	2.2	1.5	2.5
Omega-3	0.28	0.7	0.5	1.1
Nitrogen Free Extract (NFE)	2.1	2.3	1.2	1.2
Metabolisable Energy (ME) (NRC 2006) (kcal/100g)	93	136	99	124
In vivo measured ME (kcal/100g)	81	137	97	124
Protein to calorie ratio (NRC 2006) (g/Mcal)	118	103	121	89
Calorie from protein (%)	47	40	47	34
Calorie from fat (%)	44	54	48	62
Calorie from NFE (%)	9	6	5	4
Urinary pH	6.0 - 6.5	6.0 - 6.5	6.2 - 6.7	6.5 - 7.0
Struvite RSS	<1	<2.5	<2.5	<2.5
Ca oxalate RSS	<12	<12	<12	<12

Total vitamins & trace elements:

Vitamin A (IU/kg)	29000	22000	11600	15000
Vitamin D3 (IU/kg)	150	250	130	450
Vitamin E (mg/kg)	130	200	125	150
Vitamin B1 thiamine) (mg/kg)	5	4	6	7
Vitamin B2 (riboflavine) (mg/kg)	3	4	2.5	4
Vitamin B3 (PP. niacine. nicotinic ac) (mg/kg)	45	50	44	60
Vitamin B5 (pantothenic ac) (mg/kg)	8	10	6.5	10
Vitamin B6 (pyridoxine) (mg/kg)	1.7	2.5	1.4	2
Vitamin B8 (biotine. vitamin H) (mg/kg)	0.06	0.08	0.05	0.05
Vitamin B9 (folic ac) (mg/kg)	0.8	0.5	0.75	1.0
Vitamin B12 (cobalamine) (mg/kg)	0.03	0.04	0.04	0.04
Choline (mg/kg)	1300	1500	1330	1900
Taurine (mg/kg)	1200	2000	1390	2400
Copper (mg/kg)	2.6	3	2.1	5.0
Iron (mg/kg)	60	80	60	75
Iodine (mg/kg)	1.5	1.0	1.0	1.2
Manganese (mg/kg)	5	4	5	5
Selenium (mg/kg)	0.4	0.4	0.3	0.35
Zinc (mg/kg)	35	55	40	45

WET FELINE DIETETIC RANGE



Specific functional ingredients / additives:	WET - DISSOLUTION AND PREVENTION	WET - DIGESTIVE SUPPORT	WET - EARLY KIDNEY & JOINT	WET - KIDNEY & JOINT
Bentonite (mg/kg)	900	900	1000	1000
Chitosan (mg/kg)			300	300
Chondroitine sulfate (mg/kg)			300	200
Egg shell membrane (mg/kg)			300	300
Ca carbonate (%)			0.1	0.2

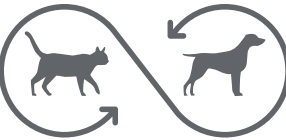
ON 1000 kcal (g)

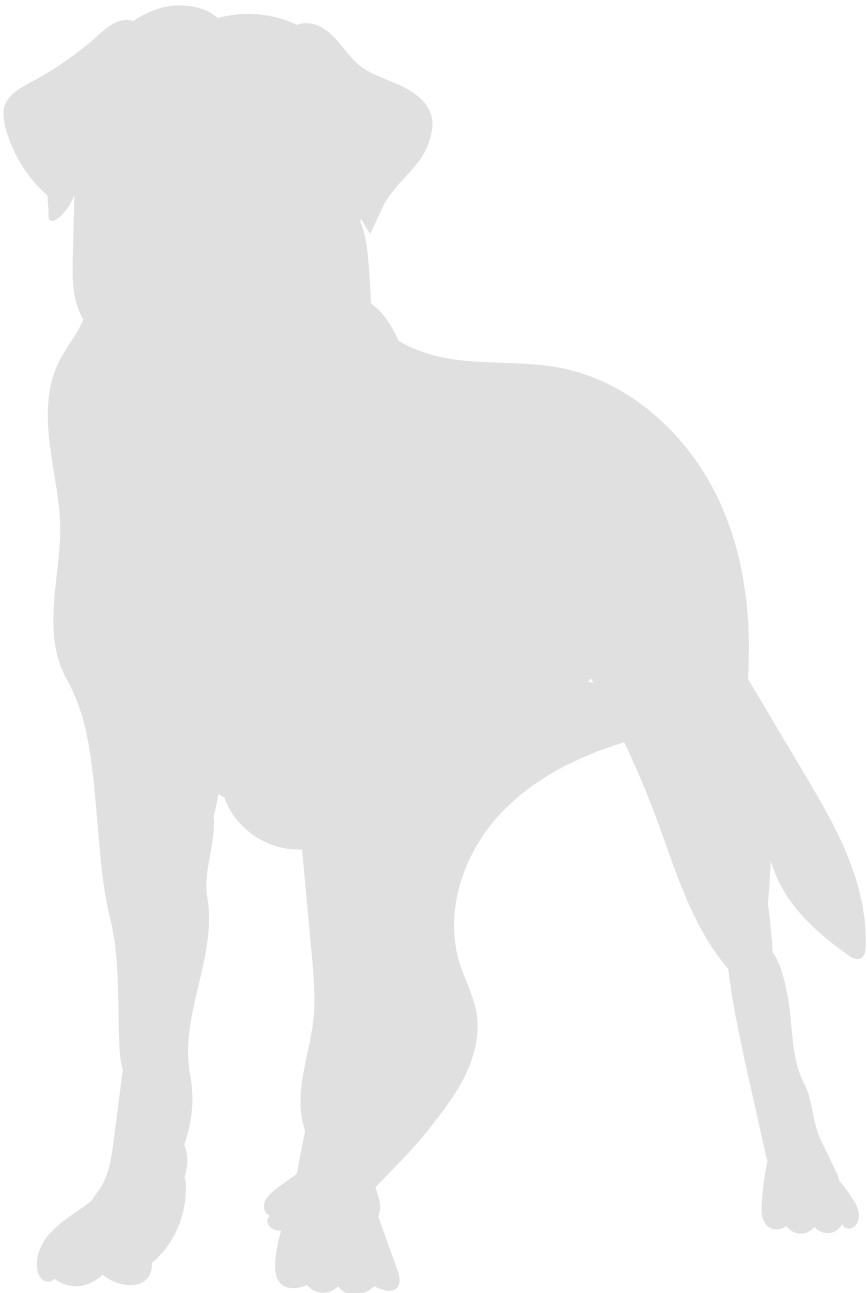
Protein	118.3	102.9	121.2	88.7
Fat	48.4	62.5	55.6	72.6
Minerals	22.6	16.9	20.2	16.1
Crude cellulose	8.6	6.6	8.1	6.5
Starch	8.6	2.9	8.1	3.2
Calcium	2.37	1.8	2.53	2.26
Phosphorus	1.61	1.5	1.72	1.21
Sodium	3.23	2.2	2.02	1.61
Potassium	2.47	2.2	2.22	2.26
Magnesium	0.15	0.1	0.14	0.11
Omega-6	9.14	16.2	15.15	20.16
Omega-3	3.01	5.1	5.05	8.06
Nitrogen Free Extract (NFE)	22.6	16.9	12.1	9.7
Vitamin A (IU/kg)	31183	16176	11717	12097
Vitamin D3 (IU/kg)	161	184	131	363
Vitamin E (mg/kg)	140	147	126	121
Vitamin B1 thiamine) (mg/kg)	5.4	2.9	6.1	5.6
Vitamin B2 (riboflavine) (mg/kg)	3.2	2.9	2.5	3.2
Vitamin B3 (PP. niacine. nicotinic ac) (mg/kg)	48.4	36.8	44.4	48.4
Vitamin B5 (pantothenic ac) (mg/kg)	8.6	7.4	6.6	8.1
Vitamin B6 (pyridoxine) (mg/kg)	1.8	1.8	1.4	1.6
Vitamin B8 (biotine. vitamin H) (mg/kg)	0.06	0.06	0.051	0.040
Vitamin B9 (folic ac) (mg/kg)	0.860	0.368	0.758	0.806
Vitamin B12 (cobalamine) (mg/kg)	0.032	0.029	0.040	0.032
Choline (mg/kg)	1398	1103	1343	1532
Taurine (mg/kg)	1290	1471	1404	1935
Copper (mg/kg)	2.8	2.2	2.1	4.0
Iron (mg/kg)	64.5	58.8	60.6	60.5
Iodine (mg/kg)	1.6	0.7	1.0	1.0
Manganese (mg/kg)	5.4	2.9	5.1	4.0
Selenium (mg/kg)	0.4	0.3	0.3	0.3
Zinc (mg/kg)	37.6	40.4	40.4	36.3



CANINE RANGE



	
CANINE DIETETIC RANGE	
TABLE OF CONTENTS	 DOG
› KEY INFORMATION 90	
› HEALTH CONDITIONS & USE 92	
WEIGHT 94	
JOINT 104	
GASTRO 110	
DERMATO 118	
ALLERGY 124	
KIDNEY 130	
UROLOGY 136	
› NUTRITIONAL INFORMATION 142	
 VETERINARY GLOBAL CARE	



 DOG



KEY INFORMATION



	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	JOINT & MOBILITY	DIGESTIVE SUPPORT	WET DIGESTIVE SUPPORT
CANINE DIETETIC PRODUCT VISUAL					
Protein (% as fed)	34	34	34	34	13
Protein to calorie ratio (g/Mcal)	124	110	102	89	90
Carbohydrate (NFE) (% as fed)	23	25.5	26.5	21.5	2
Metabolisable Energy (kcal/100g)	274	309	335	384	144
Management of primary condition Indications* Other use	• Reduction of excessive body weight • Diabetes mellitus if concurrent obesity • Fibre-responsive colitis • Constipation • Hyperlipemia • Hypothyroidism if concurrent obesity	• Reduction of excessive body weight if overweight <30% • Stabilisation of body weight after weight loss • Diabetes mellitus if no concurrent obesity • Fibre-responsive colitis • Constipation • Hypothyroidism if no concurrent obesity	• Reduction of excessive body weight in case of concurrent overweight and osteoarthritis • Joint and mobility disorders • Osteoarthritis	• Digestive disorders with maldigestion • Digestive disorders with malabsorption • Chronic Exocrine Pancreatic Insufficiency • Megacolon • Recovery • Digestive surgery	• Digestive disorders with maldigestion • Digestive disorders with malabsorption • Chronic Exocrine Pancreatic Insufficiency • Megacolon • Recovery • Digestive surgery
Bag Format	3 kg - 7 kg - 12 kg	3 kg - 12 kg	3 kg - 12 kg	1.5 kg - 3 kg - 7 kg - 12 kg	9x300g loaf

ME (NRC 2006: kcal/100 g): Metabolisable Energy calculated with NRC 2006
PCR (g/Mcal): protein in the feed in relation to the calories supplied
*Commission regulation (EU) 2020/354

	DERMATOLOGY SUPPORT	HYPOALLERGY HYDROLYSED FISH FOOD INTOLERANCE	KIDNEY SUPPORT	UROLOGY DISSOLUTION & PREVENTION
CANINE DIETETIC PRODUCT VISUAL				
Protein (% as fed)	34	24	20.5	34
Protein to calorie ratio (g/Mcal)	91	64	52	91
Carbohydrate (NFE) (% as fed)	26.5	37.5	37.5	27.5
Metabolisable Energy (kcal/100g)	375	377	391	374
Management of primary condition Indications* Other use	• Dermatitis • Dermatitis (atopy) • Excessive hair loss • Pruritus	• Adverse food reaction • Elimination trial	• Chronic kidney disease • Chronic liver insufficiency	• Dissolution of struvites • Reduction of oxalate recurrence • Reduction of struvite recurrence
Bag Format	3 kg - 7 kg - 12 kg	3 kg - 7 kg - 12 kg	3 kg - 12 kg	3 kg - 12 kg

ME (NRC 2006: kcal/100 g): Metabolisable Energy calculated with NRC 2006
PCR (g/Mcal): protein in the feed in relation to the calories supplied
*Commission regulation (EU) 2020/354

	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	JOINT & MOBILITY	DIGESTIVE SUPPORT	WET DIGESTIVE SUPPORT
Atopy					
Chylothorax					
Chronic exocrine pancreatic insufficiency					
Chronic hepatic insufficiency					
Chronic renal insufficiency					
Colitis answering a fibre-enhanced diet					
Constipation					
Convalescence					
Dermatitis					
Dermatosis					
Diabetes mellitus with associated obesity					
Diabetes mellitus without associated obesity					
Diarrhoea					
Digestive surgery					
Food allergy/intolerance					
Gastric dilatation-torsion syndrome					
Hairloss					
Hyperlipaemia					
Hypothyroidism associated with obesity					
Hypothyroidism without associated obesity					
Inflammatory bowel disease					
Maldigestion malabsorption					
Obesity (>30%)					
Orthopaedic surgery of the pelvis					
Osteoarthritis					
Overweight (<30%)					
Oxalate urolith prevention					
Small intestinal bacteria overgrowth					
Struvite urolith dissolution					
Struvite urolith prevention					
Weight stabilisation/control after loss					

	DERMATOLOGY SUPPORT	HYPOALLERGY FISH	KIDNEY SUPPORT	UROLOGY DISSOLUTION & PREVENTION
Atopy				
Chylothorax				
Chronic exocrine pancreatic insufficiency				
Chronic hepatic insufficiency				
Chronic renal insufficiency				
Colitis answering a fibre-enhanced diet				
Constipation				
Convalescence				
Dermatitis				
Dermatosis				
Diabetes mellitus with associated obesity				
Diabetes mellitus without associated obesity				
Diarrhoea				
Digestive surgery				
Food allergy/intolerance				
Gastric dilatation-torsion syndrome				
Hairloss				
Hyperlipaemia				
Hypothyroidism associated with obesity				
Hypothyroidism without associated obesity				
Inflammatory bowel disease				
Maldigestion malabsorption				
Obesity (>30%)				
Orthopaedic surgery of the pelvis				
Osteoarthritis				
Overweight (<30%)				
Oxalate urolith prevention				
Small intestinal bacteria overgrowth				
Struvite urolith dissolution				
Struvite urolith prevention				
Weight stabilisation/control after loss				

W E I G H T



CANINE OBESITY

DIETARY MANAGEMENT
OF EXCESSIVE BODY WEIGHT

**OBESITY
(≥30% OVERWEIGHT)**

**OBESITY
(<30% OVERWEIGHT)**

Soft Weight Loss approach



1 WEIGHT LOSS & DIABETES
Obesity (>30%) & Diabetes

1 WEIGHT LOSS & DIABETES
Obesity (>30%) & Diabetes

2 WEIGHT LOSS & CONTROL
Overweight (<30%) & Diabetes

Once target body weight achieved
Long term⁽¹⁾:
MAINTENANCE OF BODYWEIGHT AFTER LOSS



2 WEIGHT LOSS & CONTROL
Overweight (<30%) & Diabetes

DIABETES MELLITUS

DIETARY
MANAGEMENT
OF DIABETES AND
EXCESSIVE BODY
WEIGHT

DIETARY
MANAGEMENT
OF DIABETES
AND WEIGHT
CONTROL

**EXCESSIVE
BODY WEIGHT**

**OPTIMAL
BODY WEIGHT**



1 WEIGHT LOSS & DIABETES
Obesity (>30%) & Diabetes

2 WEIGHT LOSS & CONTROL
Overweight (<30%) & Diabetes



➤ AVAILABLE FORMATS

- 3 kg, 7 kg, 12 kg

➤ DIETETIC INDICATIONS*

- Reduction of excessive body weight.
- Regulation of glucose supply (diabetes mellitus); only in case of associated obesity.

➤ OTHER USE

- Responsive-fibre colitis, constipation.
- Lipid metabolism disorders (hyperlipidemia).

➤ CONTRAINDICATIONS

- Growth.
- Gestation and lactation.
- Chronic kidney disease (CKD).

* Commission regulation (EU) 2020/354

➤ KEY BENEFITS
& CHARACTERISTICS

➤ Low Energy Density*

Low energy density of the diet helps achieve rapid weight loss⁽¹⁾.

➤ Joint Support

Addition of chondroitin sulfate and chitosan helps support joints and thus improve interactions and life quality.

➤ High Crude Fibre Improves Satiety

High crude fibre content, especially insoluble fibres, in association with high level of protein, helps promote satiety.

➤ Low Glycemic Index & Total Sugar

HP-LC formulation with low amounts of starch and total sugars helps reduce the impact of the meal on glycaemia and insulinemia⁽¹⁾⁽²⁾ and helps manage patients with diabetes or insulin resistance.

➤ Improves Lean Mass / Fat Mass Ratio

High Protein- Low Carbohydrate (HP-LC) formulation helps preserve lean mass and decrease fat mass during weight loss⁽¹⁾.

➤ ADDITIONAL BENEFITS
& CHARACTERISTICS

➤ Fat Burning

Added L-carnitine as fat burner helps lean mass preservation during weight loss.

➤ Increased levels of vitamins and trace elements (by 15% compared to Veterinary HPM Adult Dog)

Formula enriched with vitamins and trace elements guarantees adequate contributions despite of feeding restriction and small rations.

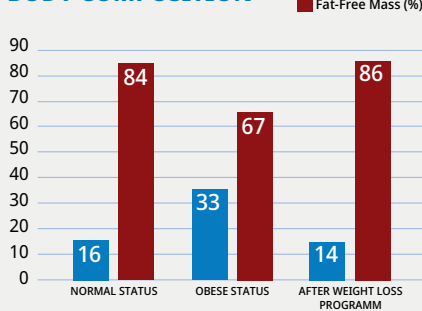
➤ Controlled palatability

Richness in animal protein and fat respects natural preferences of carnivores to help achieve compliance.

➤ Suitable for Adult and Senior dogs

The amounts of all essential nutrients fit the daily requirement of adult and senior dogs.

BODY COMPOSITION⁽¹⁾



➤ ANALYTICAL CONSTITUENTS
% as fed

• Moisture	9
• Protein	34
• Animal to vegetal protein ratio	94/06
• Fat	11.5
• Minerals	7.5
• Crude Fibre	15
• NFE*	23
• Starch	14
• Total sugars	1
• Calcium	1.3
• Phosphorus	0.9
• Sodium	0.4
• Omega-6 fatty acids	2.2
• Omega-3 fatty acids	0.7

➤ KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	274
• ME** measured in vivo (kcal/100g)	285
• Protein digestibility (in vivo; %)	82
• Fat digestibility (in vivo; %)	92
• Energy from protein (%)	40
• Energy from fat (%)	33
• Energy from NFE (%)	27
• Protein to Calorie ratio (g/Mcal)	124

* Nitrogen Free Extract

** Metabolisable energy

*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE)

23%

HIGH PROTEIN

34%

of ANIMAL ORIGIN

94%

➤ COMPOSITION

Dehydrated pork and poultry proteins, potato starch⁽¹⁾, lignocellulose, hydrolysed pork and poultry proteins, faba bean hulls, animal fats, minerals, linseed, beet pulp, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, brewers yeast, hydrolysed crustacean (source of chitosan), *Lactobacillus acidophilus*, chondroitin sulfate.

1) Carbohydrate sources.

➤ SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• Chondroitin Sulfate	440 mg/kg
• Chitosan	440 mg/kg
• L-carnitine	330 mg/kg

➤ FEEDING GUIDELINES

IN THE CASE OF OBESITY
WITHOUT CONCURRENT DIABETES

Target Body Weight (kg)	Daily ration (g/day)	
	High restriction	Moderate restriction
3	55	75
5	80	105
8	110	145
10	125	170
15	165	220
20	200	270
25	235	310
30	265	350
40	320	425
60	420	560

The daily ration is based on the dog's TARGET bodyweight.

IN THE CASE OF OBESITY
ASSOCIATED WITH DIABETES

Current Body Weight (kg)	Daily ration (g/day)
3	75
5	105
8	145
10	170
15	220
20	270
25	310
30	350
40	425
60	560

The daily ration is based on the dog's CURRENT body-weight, and must be adjusted every week. Always provide a generous supply of fresh drinking water. It is normal to notice an important increase in water intake and urine volume.



100% OF DOGS HAVE REACHED
THEIR TARGET BODY WEIGHT⁽¹⁾

2.2% OF MEAN WEIGHT LOSS/PER WEEK⁽¹⁾

PROVEN FASTER WEIGHT LOSS

OPTIMAL BODY WEIGHT REACHED AFTER 27 WEEKS
COMPARED TO 34 FOR COMPETITORS⁽³⁾

OUR STUDIES

👉 Page 168

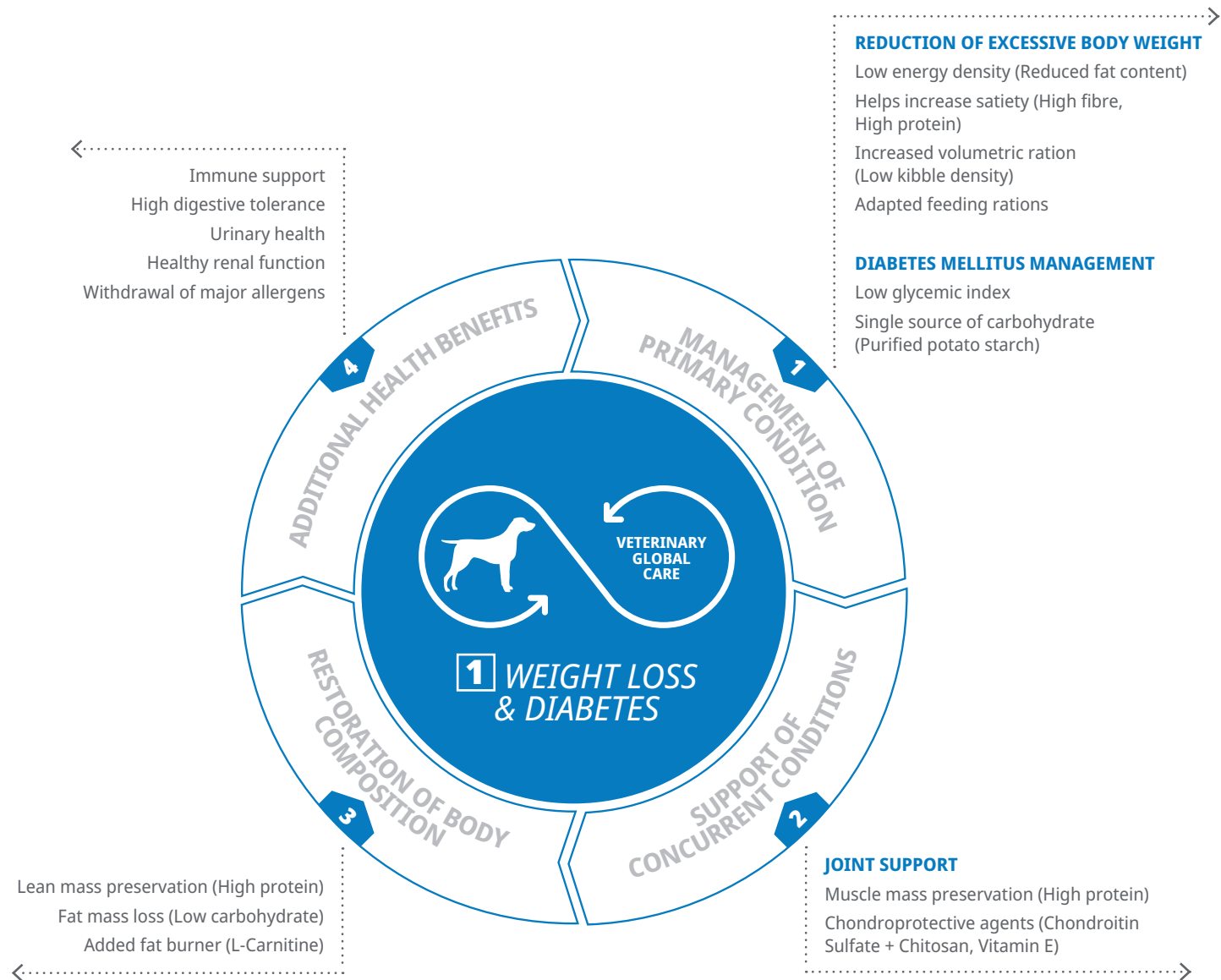
👉 Page 168



(1) A. André et al., Recovery of insulin sensitivity and optimal body composition after rapid weight loss in obese dogs fed a high-protein medium-carbohydrate diet. J Anim Physiol Anim Nutr 2017 ; 101 (Suppl1): 21-30.

(2) A. André et al., Low-carbohydrate high-protein dry diet lowers postprandial glucose and insulin concentrations in obese dogs. ESCVN congress 2015 🐾 Page 166

(3) I. Leriche et al., Efficacy and tolerance of a high-protein high-fibre low-starch diet for weight loss in client-owned obese dogs: a randomized double-blind controlled evaluation. SEVC congress 2020





AVAILABLE FORMATS

- 3 kg, 12 kg

DIETETIC INDICATIONS*

- Reduction of excessive body weight.
- Regulation of glucose supply (diabetes mellitus); only in case of normal body weight.

OTHER USE

- Weight control after weight loss.
- Fibre-responsive colitis, constipation.

CONTRAINDICATIONS

- Growth.
- Gestation and lactation.
- Chronic kidney disease (CKD).

* Commission regulation (EU) 2020/354

WEIGHT

2

WEIGHT LOSS & CONTROL
Overweight (<30%) & Diabetes

KEY BENEFITS
& CHARACTERISTICS

> Low Energy Density*

Low energy density of the diet helps achieve soft weight loss ⁽¹⁾.

> Moderate Restriction of Daily Ration

A soft weight loss programme is proposed, with the advantage of moderate restriction of feeding rations, to help achieve optimal compliance ⁽¹⁾.

> Improves Lean Mass / Fat Mass Ratio

High Protein- Low Carbohydrate (HP-LC) formulation helps preserve lean mass during weight loss and maintain ideal body composition after weight loss ⁽²⁾.

> High Palatability

Richness in animal protein and fat guarantess high palatability for optimal compliance ⁽¹⁾.

> Low Glycemic Index & Total Sugar

HP-LC formulation with low amounts of starch and total sugars helps reduce the impact of the meal on glycaemia and insulinemia and manage patients with diabetes mellitus or insulin resistance ⁽²⁾.

ADDITIONAL BENEFITS
& CHARACTERISTICS

> Fat burning

Added L-carnitine as fat burner helps lean mass preservation during weight loss.

> Joint support

Addition of chondroitin sulfate and chitosan helps joint support and thus improve interactions and life quality.

> Increased Fibres

Fibres help promote satiety and regulate starch digestion and absorption.

> Coat Condition

High and balanced amount of omega-6 and omega-3 contributes to normal coat condition.

> Suitable for Adult and Senior dogs

The amounts of all essential nutrients fit the daily requirement of adult and senior dogs.

ANALYTICAL CONSTITUENTS
% as fed

• Moisture	9
• Protein	34
• Animal to vegetal protein ratio	88/12
• Fat	13
• Minerals	7.5
• Crude Fibre	11
• NFE*	25.5
• Total Dietary Fibre	17
• Starch	18
• Total sugars	1
• Calcium	1.3
• Phosphorus	1.1
• Sodium	0.4
• Omega-6 fatty acids	2.2
• Omega-3 fatty acids	0.9

KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	309
• ME** measured in vivo (kcal/100g)	302
• Protein digestibility (in vivo; %)	80
• Fat digestibility (in vivo; %)	95
• Energy from protein (%)	37
• Energy from fat (%)	35
• Energy from NFE (%)	28
• Protein to Calorie ratio (g/Mcal)	110

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 25.5%

HIGH PROTEIN 34%

of ANIMAL ORIGIN 88%

COMPOSITION

Dehydrated pork and poultry proteins, rice⁽¹⁾, lignocellulose, hydrolysed pork and poultry proteins, animal fats, faba bean hulls, potato starch⁽¹⁾, peas⁽¹⁾, linseed, minerals, beet pulp, brewers yeast, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, hydrolysed crustacean (source of chitosan), *Lactobacillus acidophilus*, chondroitin sulfate.

⁽¹⁾ Carbohydrate sources.

SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• Chondroitin sulfate	215 mg/kg
• Chitosan	215 mg/kg
• L-carnitine	330 mg/kg

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Weight loss	Weight control	Diabetes (without obesity)
3	65	75	105
5	95	105	150
8	130	145	200
10	150	170	235
15	195	220	305
20	240	270	370
25	275	310	430
30	310	350	490
40	380	425	590
60	495	560	775

The daily ration is based on the dog's CURRENT bodyweight, and must be adjusted every week in case of weight loss and every month in case of maintenance.



80% OF DOGS HAVE SIGNIFICANTLY LOST BODY WEIGHT⁽¹⁾

0.8% OF MEAN WEIGHT LOSS/PER WEEK⁽¹⁾

90% OF DOGS HAVE APPRECIATED THE DIET ACCORDING TO THEIR PETOWNER⁽¹⁾

84% OF DOGS SHOWED A SATISFIED APPETITE⁽¹⁾

OUR STUDIES

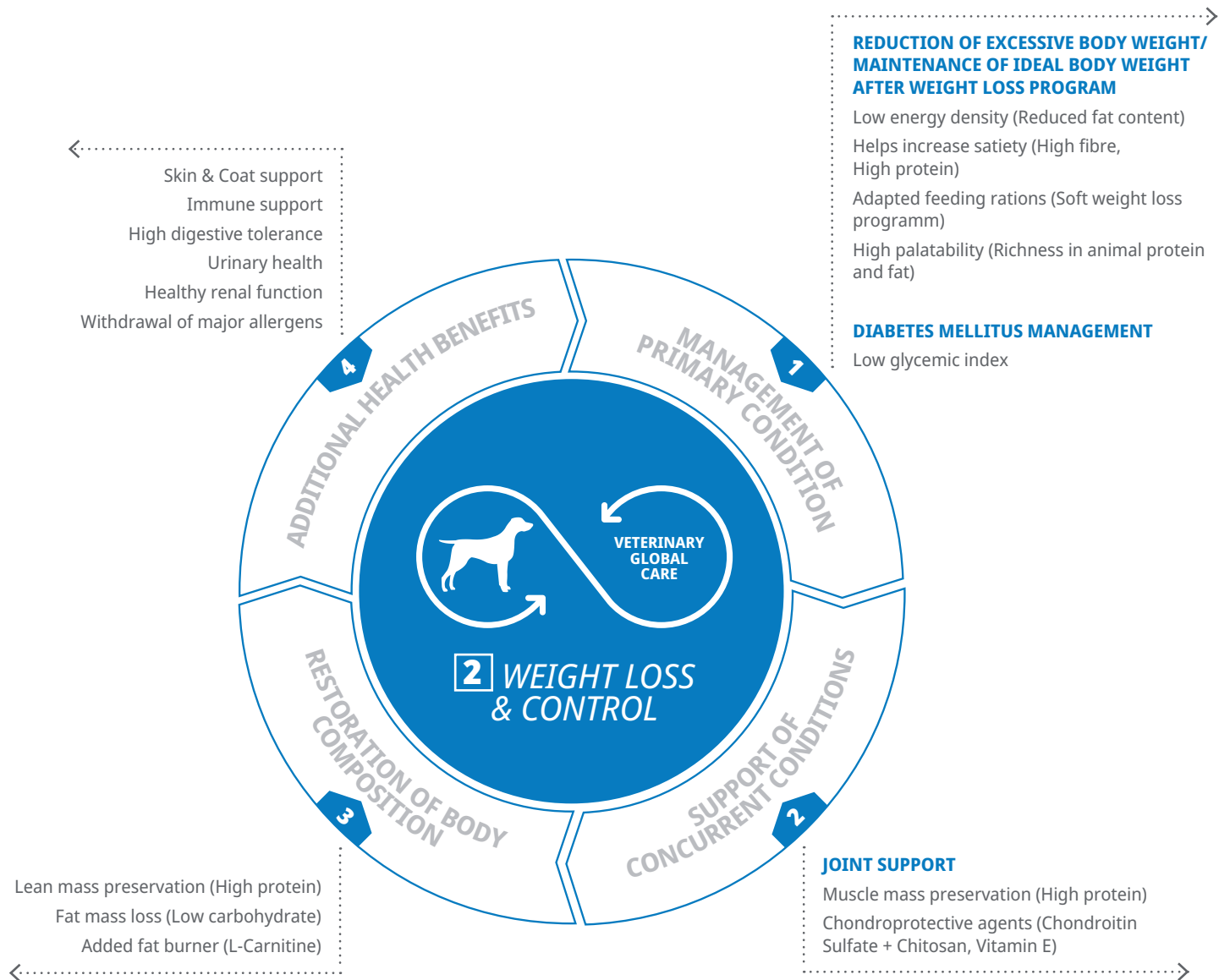
Page 170



(1) G. Chaix et al.. Weight management in client-owned dogs fed a high protein – low carbohydrate maintenance diet. ESVCN Congress 2014.
(2) Maintenance of body composition and insulin sensitivity in dogs fed a high protein low carbohydrate diet after weight loss. Internal data 2016.



DOG

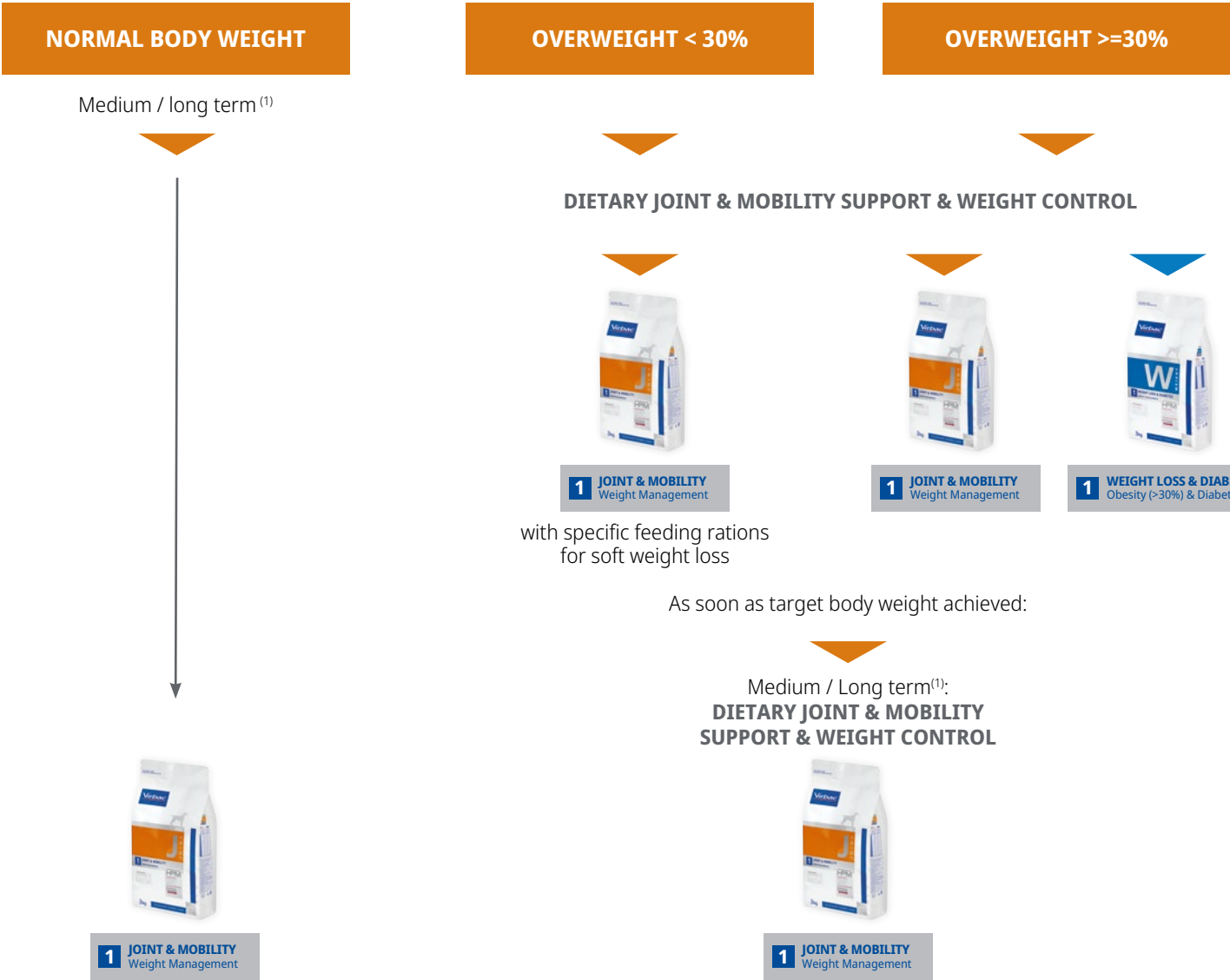


J JOINT



CANINE OSTEOARTHRITIC DISEASES

(NB: medical management of pain must be considered)



1) A veterinarian's opinion should be sought before use.



AVAILABLE FORMATS

- 3 kg, 12 kg

DIETETIC INDICATIONS*

- Support of the metabolism of joints in the case of osteoarthritis.

OTHER USE

- Joint disorders.
- Mobility improvement.
- Body weight management.

CONTRAINDICATIONS

- Use for baby, before growth peak.
- Gestation and lactation.
- Chronic kidney disease (CKD).

* Commission regulation (EU) 2020/354

JOINT

1 JOINT & MOBILITY
Weight Management

KEY BENEFITS & CHARACTERISTICS

Muscle Mass Preservation

The richness in protein helps promote strong muscles to support joints and mobility.

High Omega-3 and High EPA*

Specific fat sources provide high level of omega-3, especially EPA, and help limit the inflammatory and painful processes in joints

Body Weight Control

Low energy density and adapted feeding rations (soft weight loss approach) help achieve and maintain ideal body weight to limit mechanical constraints on joints.

MOBILITY Plus Complex

The association of Chondroitin sulfate and Chitosan help to maintain the cartilage integrity (developped by Virbac).

ADDITIONAL BENEFITS & CHARACTERISTICS

Addition of Antioxidant

Richness in vitamin E (570 mg/kg) helps limit oxidative processes.

Addition of Egg shell membrane⁽¹⁾

Contains Egg shell membrane known for its proven efficacy to help cartilage recovery, reducing pain, and lameness whilst increasing joint flexibility and mobility in dogs in general.

Protection of Digestive Mucosa

Added Bentonite helps protect the mucosa in case of concurrent anti-inflammatory therapy.

High Digestive Tolerance

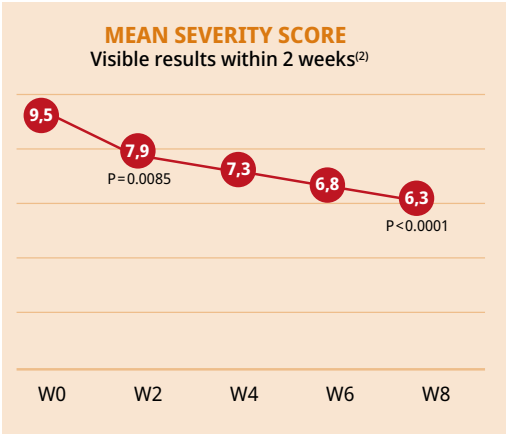
Addition of specific ingredients (clay, probiotics, prebiotics and selected fibres) helps maintain healthy digestive tract.

High Palatability

Richness in animal protein and fat guarantees high palatability for optimal compliance⁽²⁾.

Suitable for junior, adult and senior dogs

The amounts of all essential nutrients and the energy density of the product fit the daily requirements of dogs from junior to senior ages.



ANALYTICAL CONSTITUENTS
% as fed

• Moisture	9
• Protein	34
• Animal to vegetal protein ratio	85/15
• Fat	15
• Minerals	6.5
• Crude Fibre	9
• NFE*	26.5
• Starch	18
• Calcium	0.9
• Phosphorus	0.7
• Sodium	0.4
• Omega-6 fatty acids	2
• Omega-3 fatty acids	3
• EPA	0.6

KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	335
• ME** measured in vivo (kcal/100g)	353
• Protein digestibility (in vivo; %)	82
• Fat digestibility (in vivo; %)	94.5
• Energy from protein (%)	35
• Energy from fat (%)	38
• Energy from NFE (%)	27
• Protein to Calorie ratio (g/Mcal)	102

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

Improved formula with innovative Eggshell membrane*

LOW CARBOHYDRATE (NFE) 26.5%

HIGH PROTEIN 34%

of ANIMAL ORIGIN 85%

COMPOSITION

Dehydrated pork and poultry proteins, rice, faba bean hulls, hydrolysed pork and poultry proteins, lignocellulose, peas, linseed, fish oil, potato starch, animal fats, minerals, fructo-oligosaccharides, psyllium fibre (*Plantago (L.) spp.*), brewers yeast, beet pulp, hydrolysed crustacean (source of chitosan), egg membrane, *Lactobacillus acidophilus*, chondroitin sulfate.

SPECIFIC INGREDIENTS/ADDITIVES

• Chitosan	1240 mg/kg
• Chondroitine sulfate	1240 mg/kg
• Vitamin E	570 mg/kg
• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• L-carnitine	330 mg/kg
• Egg shell membrane****	300 mg/kg

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Overweight soft weight loss	Normal*	Underweight
3	60	80	85
5	85	110	125
8	120	150	170
10	140	175	195
15	180	225	255
20	220	275	310
25	255	320	360
30	290	360	405
40	350	435	490
60	455	570	645

The daily ration is based on the dog's CURRENT bodyweight, and must be adjusted every month, or every week in the case of weight loss.

****Film lining internally the chicken egg shell. Mechanically separated from shell 100% natural, 95% purity



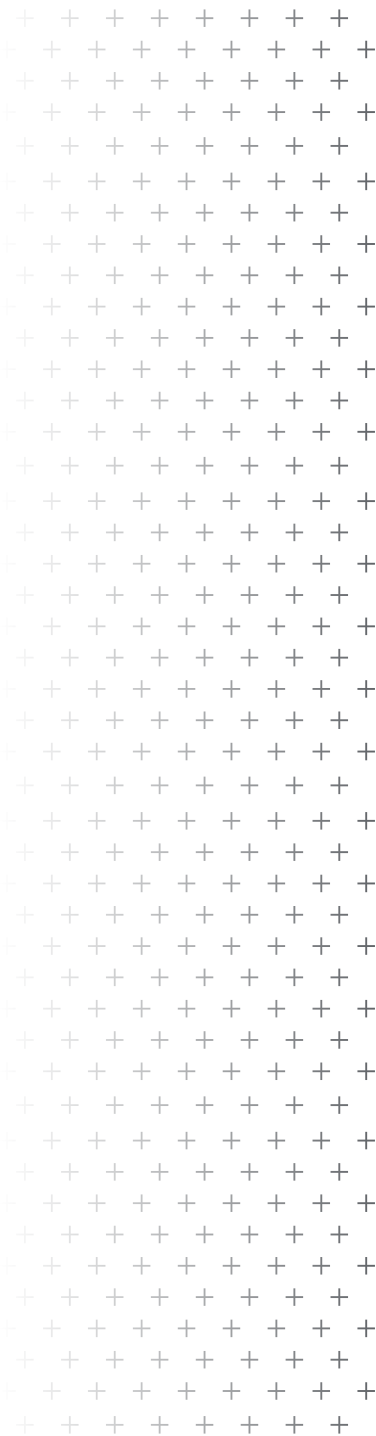
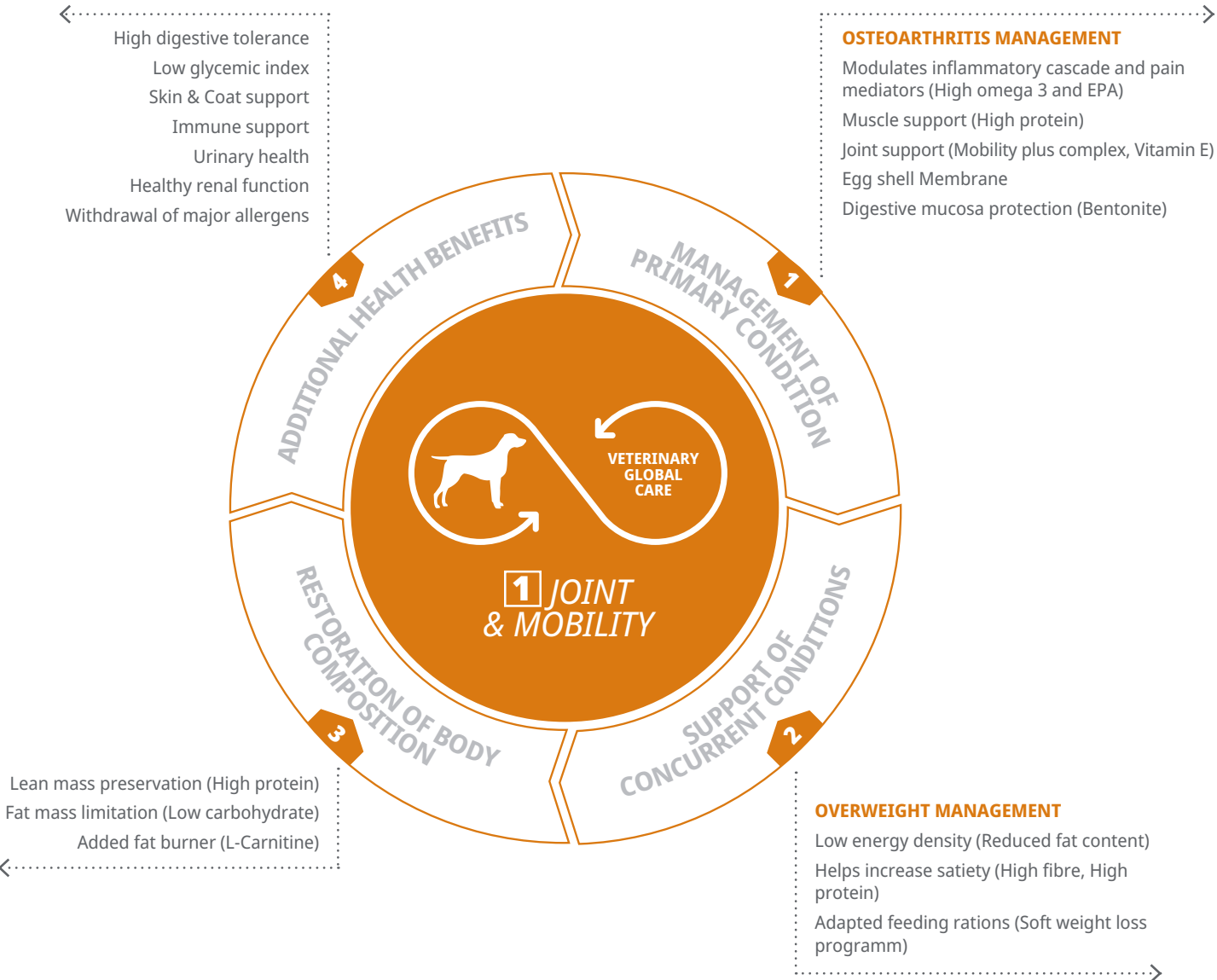
78% OF OWNERS SATISFIED BY THE EFFECTS OF VETERINARY HPM JOINT & MOBILITY IN DOGS AFTER 8 WEEKS⁽²⁾

OUR STUDIES

Page 172



(1) Aguirre A et al. The efficacy of Ovopet in the treatment of hip dysplasia in dogs. J Vet Med Anim Health 2018; 10(8): 198-207. Benson KF et al. Effects of natural eggshell membrane (NEM) on cytokine production in cultures of peripheral blood mononuclear cells: increased suppression of tumor necrosis factor-alpha levels after in vitro digestion. J Med Food 2012; 15(4): 360-368. Dockery N and Cousin C. NEM brand eggshell membrane: clinically proven benefits for joint health in dogs. Pet Food Suppl 2017; 18-19. Ruff KJ et al. Effectiveness of NEM brand eggshell membrane in the treatment of suboptimal joint function in dogs: a multicenter, randomized, double-blind, placebo-controlled study. Vet Med Res Rep 2016; 7: 113-121.
(2) C. Nicolas et al. Assessment of a new high protein - high essential fatty acid diet in dogs with chronic joint disorders. AHVM Congress 2016.

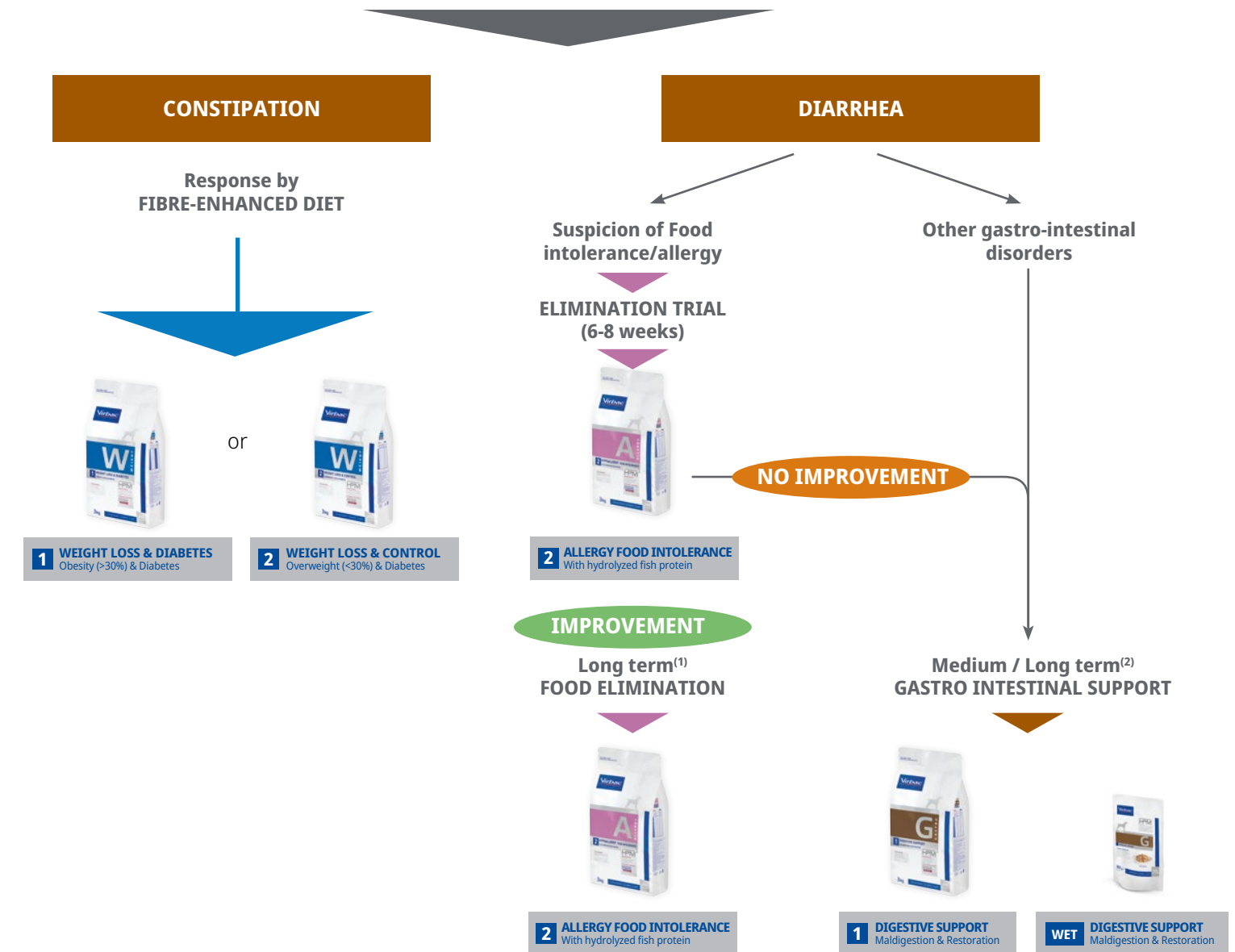


G

G A S T R O



CANINE CHRONIC DIGESTIVE DISEASES



1) If signs of intolerance disappear, this food can be used indefinitely (European Commission directive 2020/354)
2) Up to 12 weeks, it is recommended that a veterinarian's opinion be sought before use and continuation of diet feeding.



> AVAILABLE FORMATS

- 1.5 kg, 3 kg, 7 kg, 12 kg

> DIETETIC INDICATIONS*

LINKED TO GASTROINTESTINAL DISORDERS:

- Compensation for maldigestion.
- Reduction of acute intestinal absorptive disorders.
- Chronic Exocrine Pancreatic Insufficiency.

LINKED TO RECOVERY

- Nutritional restoration, convalescence

> OTHER USE

- Gastritis / Enteritis / Colitis.
- Megacolon.
- Inflammatory Bowel Disease.
- Recovery after digestive surgery.
- Recovery after disease.
- Recovery after anorexia period.

> CONTRAINDICATIONS

- Chronic kidney disease (CKD).
- Cardiac insufficiency.

* Commission regulation (EU) 2020/354

> KEY BENEFITS
& CHARACTERISTICS

> Promotes Nutritional Restoration*

High levels of essential nutrients and energy density help compensate for losses and allow body composition restoration.

> Low allergen formulation

The diet is made without beef, gluten, maize, wheat, soya, egg, fish. The number of different protein sources is limited (3: pork, poultry and rice) to minimise antigenic load and adverse digestive reactions.

> High Energy & Concentration

High energy density reduces the size of the daily ration and limits the workload of the digestive tract. This formula is made with high parts of energy from fat and protein, two sources that can be easily metabolised and known to be beneficial during the acute phase of recovery. High concentration in all the essential nutrients allows to cover the high needs in small rations.

> Low Starch (17% as fed)

The unique source (rice) and the low level of starch helps limit the workload of the digestive tract and increase digestibility and digestive tolerance.

> DIGEST Plus Complex

Addition of specific ingredients (clay, probiotics, prebiotics, selected fibres, butyrate, nucleotides) helps to quickly secure the digestive function, improve the digestive tolerance and produce normal faeces.

> ADDITIONAL BENEFITS
& CHARACTERISTICS

> Increases Water Intake

High amounts of protein and sodium stimulate water intake to help compensate for hydroelectrolytic losses.

> Supports Digestive Barrier Effect

Addition of selected ingredients (beta glucan, butyrate, nucleotides) contribute to restore an efficient body's defense at the digestive level and limit the risk of recurrences in the long term ⁽¹⁾.

> Enhances Immunity

High protein content with balanced amino acid profile, beta glucan and vitamin E help reinforce the immune system and helps the recovery.

> High Palatability

Richness in animal protein and fat guarantees high palatability for optimal compliance ⁽¹⁾.

> Suitable for all life stages

The amounts of all essential nutrients fit the daily requirements of all dogs at all stages or physiological status (puppies, adult dogs, gestating or lactating bitches, and senior dogs).

> ANALYTICAL CONSTITUENTS
% as fed

• Moisture	9
• Protein	34
• Animal to vegetal protein ratio	92/08
• Fat	22
• Minerals	7.5
• Crude Fibre	6
• NFE*	21.5
• Starch	17
• Calcium	1.3
• Phosphorus	0.9
• Sodium	0.6
• Potassium	0.8
• Omega-6 fatty acids	2.5
• Omega-3 fatty acids	0.9
• EPA+DHA	0.3

> KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	384
• ME** measured in vivo (kcal/100g)	411
• Protein digestibility (in vivo; %)	85
• Fat digestibility (in vivo; %)	97
• Energy from protein (%)	31
• Energy from fat (%)	49
• Energy from NFE (%)	20
• Protein to Calorie ratio (g/Mcal)	89

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 21.5%

HIGH PROTEIN 34%

of ANIMAL ORIGIN 92%

> COMPOSITION

Dehydrated pork and poultry proteins⁽¹⁾, rice⁽¹⁾, animal fats⁽¹⁾, lignocellulose, hydrolysed pork and poultry proteins⁽¹⁾, beet pulp, minerals, fish oil⁽¹⁾, linseed, brewers yeast (source of betaglucan and nucleotides), psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, calcium butyrate, *Lactobacillus acidophilus*.

1) Highly digestible ingredients.

> SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• Butyrate	430 mg/kg
• Nucleotides	560 mg/kg
• Beta Glucan	500 mg/

> FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Recovery Underweight
3	65	85	100
5	95	120	140
8	130	160	195
10	150	185	225
15	195	245	295
20	235	295	355
25	275	345	415
30	310	390	465
40	375	470	565
60	495	615	740

The daily ration is based on the dog's CURRENT bodyweight, and must be adjusted every week during recovery and every month in the medium/long term.

*Adult dog with optimal body weight and normal physical activity.

VISIBLE RESULTS WITHIN 1 MONTH⁽¹⁾

95% SHOW A NORMAL FAECES CONSISTENCY

77% OF DOGS SHOW IMPROVED STOOL ODOUR

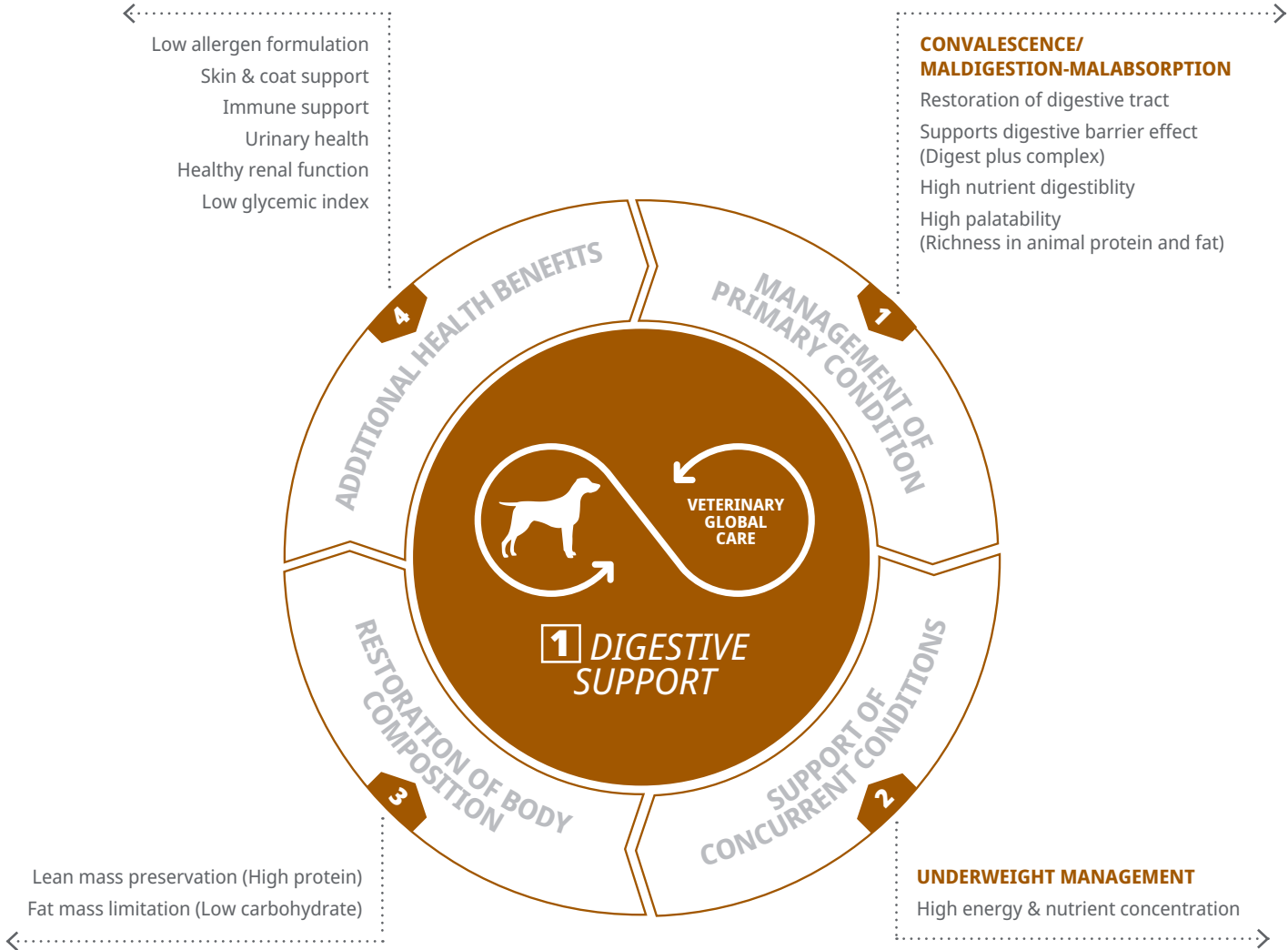
86% OF DOGS IMPROVED AFTER 1 MONTH

OUR STUDIES

Page 174



(1) I. Leriche et al. Assessment of a new high protein – low carbohydrate diet in dogs with chronic gastrointestinal disorders. ESVCN Congress 2016.





> AVAILABLE FORMATS

- 9 x 300 g pouch box

> DIETETIC INDICATIONS*

- Compensation for maldigestion
- Reduction of intestinal absorptive disorders
- Chronic Exocrine Pancreatic Insufficiency.

LINKED TO RECOVERY

- Nutritional restoration, convalescence.

> OTHER USE

- Gastritis / Enteritis / Colitis.
- Megacolon.
- nflammatory Bowel Disease.
- Recovery after digestive surgery.
- Recovery after disease.
- Recovery after anorexia period.

> CONTRAINDICATIONS

- Chronic Kidney Disease.

* Commission regulation (EU) 2020/354

GASTRO

WET

DIGESTIVE SUPPORT
Maldigestion & Restoration

> KEY BENEFITS
& CHARACTERISTICS

> High Energy

The high energy density of the diet helps compensate for losses and cover the high needs in small rations.

> High protein Low carbohydrate

The energy balance (Protein:Fat:Carbohydrate) of the diet favors the quick restoration of optimal body condition.

> High Digestive Tolerance

The rigorous selection of high quality raw materials helps to quickly secure the digestive function and produce normal faeces.

> Supports hydration

The high moisture content of the wet diet naturally increases total water intake and helps prevent dehydration that could result from digestive troubles.

> High Palatability

The richness in animal ingredients (86%) guarantees high palatability for optimal compliance.



VISIBLE RESULTS WITHIN 1 WEEK ⁽¹⁾



100% SHOW A NORMAL FAECES CONSISTENCY

97% OF DOGS SHOW IMPROVED STOOL ODOUR

86% OF DOGS IMPROVED AFTER 1 WEEK

MIXED DRY-WET
STUDY

Page 176



(1) Leriche, M Rose, I Mougeot. Effectiveness of a combination of dry and wet high fat high protein dietetic foods in dogs with chronic gastrointestinal disorders. ESCVN Congress, 2025.

> ANALYTICAL CONSTITUENTS
% as fed

• Moisture	72
• Protein	13
• Animal to vegetal protein ratio	87/13
• Fat	9.5
• Minerals	2.4
• Crude Cellulose	1.1
• NFE*	2.0
• Starch	0.4
• Calcium	0.26
• Phosphorus	0.18
• Sodium	0.25
• Potassium	0.33
• Omega-6 fatty acids	2.5
• Omega-3 fatty acids	0.75
• EPA+DHA	0.55

> KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	144
• ME** measured in vivo (kcal/100g)	151
• Protein digestibility (in vivo; %)	87.5
• Fat digestibility (in vivo; %)	97
• Energy from protein (%)	36
• Energy from fat (%)	59
• Energy from NFE (%)	5
• Protein to Calorie ratio (g/Mcal)	90

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW
CARBOHYDRATE (NFE) 2%

HIGH
PROTEIN 13%

of ANIMAL ORIGIN 87%

> COMPOSITION

Loaf: chicken neck, chicken liver⁽¹⁾, pork kidney⁽¹⁾, chicken tripe⁽¹⁾, mechanically deboned chicken meat⁽¹⁾, pea protein extract⁽¹⁾, fish oil⁽¹⁾, sunflower oil⁽¹⁾, pork plasma⁽¹⁾, egg white⁽¹⁾, minerals and vitamins, cellulose, lignocellulose, potato starch, caramel.

⁽¹⁾ Highly digestible ingredients.

> SPECIFIC INGREDIENTS/ADDITIVES

- Bentonite 900 mg/kg

> FEEDING GUIDELINES



IF EXCLUSIVE FEEDING WITH WET

Body Weight (kg)	Pouch/day		
	Overweight	Normal	Recovery Underweight
3	0.5	0.5	1
5	1	1	1.5
8	1.5	1.5	1.5
10	1.5	1.5	2
15	2	2	2.5
20	2.5	2.5	3
25	3	3	3.5
30	3	3.5	4
40	4	4	5
60	5	5.5	6.5

Mixed feeding is also possible, combining Veterinary HPM Wet and Dry Digestive diets. We propose to provide around 50% of the energy need with wet and 50% with dry, but all combinations are possible depending on the individual case.

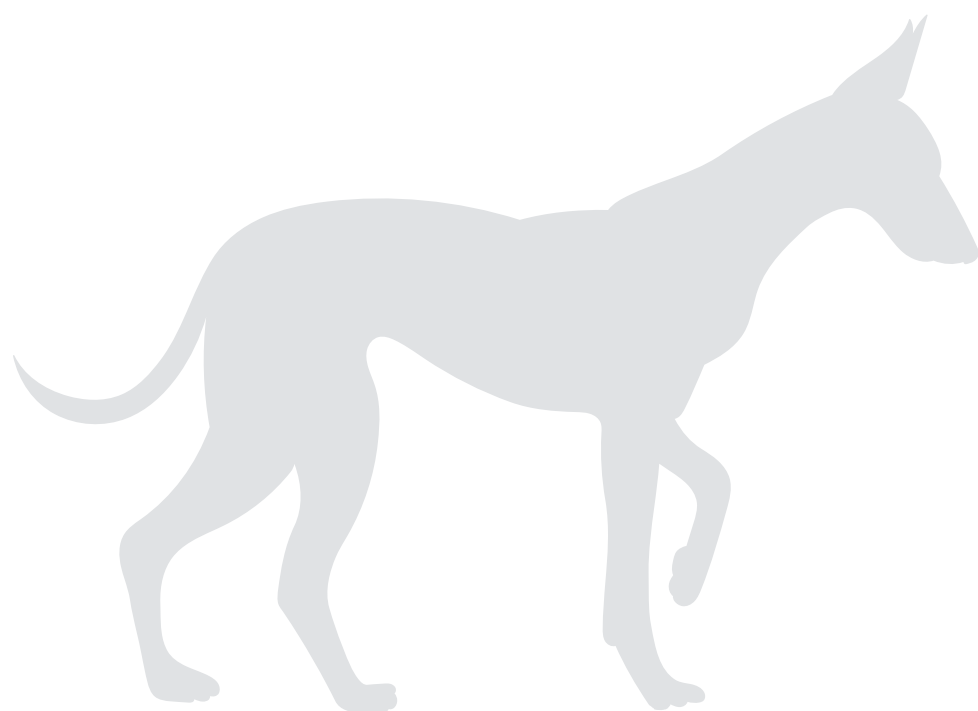
IF FEEDING RATION COMPOSED WITH BOTH WET AND DRY
VET HPM DIGESTIVE SUPPORT DOG

Body Weight (kg)	Overweight		Normal		Recovery Underweight	
	Wet (pouch)	Dry (g/day)	Wet (pouch)	Dry (g/day)	Wet (pouch)	Dry (g/day)
3	0.25	45	0.25	55	0.5	45
5	0.5	50	0.5	60	0.5	85
8	0.5	90	0.5	105	0.5	135
10	0.5	110	0.5	130	1	110
15	1	110	1	130	1	180
20	1	155	1	185	1.5	185
25	1.5	140	1.5	175	1.5	245
30	1.5	180	1.5	220	2	240
40	2	200	2	245	2.5	285
60	2.5	275	2.5	335	3	405

*Adult dog with optimal body weight and normal physical activity.

D

DERMATOLOGY



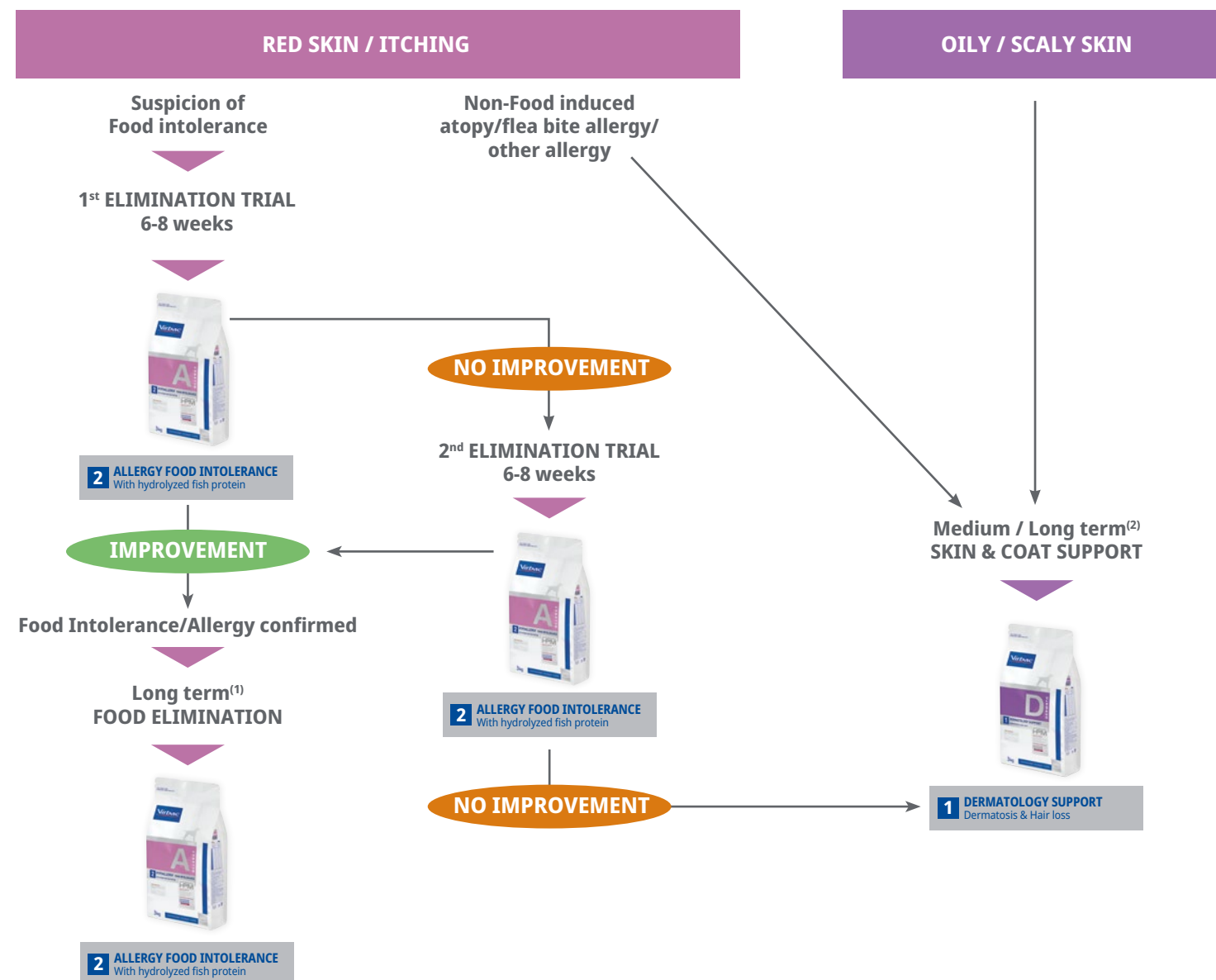
DERMATOLOGY

DECISION TREE FOR RIGHT DIET CHOICE



DOG

CANINE SKIN & COAT DISEASE



1) If signs of intolerance disappear, this food can be used indefinitely (European Commission directive 2020/354)

2) Up to 2 months. It is recommended that a veterinarian's opinion be sought before use. (European Commission directive 2020/354)



AVAILABLE FORMATS

- 3 kg, 7 kg, 12 kg

DIETETIC INDICATIONS*

- Support of the skin function in the case of dermatosis and excessive loss of hair.

OTHER USE

- Inflammatory skin conditions, dermatitis, atopic dermatitis.
- Pruritus.

CONTRAINDICATIONS

- Chronic kidney disease (CKD).

* Commission regulation (EU) 2020/354

KEY BENEFITS & CHARACTERISTICS

Improves Coat Condition

High linoleic acid (LA) content helps reduce scales production and regulate sebaceous secretion for a shiny coat ⁽¹⁾.

High Protein & Sulphur Amino Acids

Richness in animal protein answers the high requirements to restore skin integrity with proper skin healing and hair regrowth.

DERMA Plus Complex

Concentration and balance of omega-6 and omega-3 (by fish and sunflower oils, linseed, borage seeds), plus synergistic co-factors vitamins A and E, help improve clinical signs of dermatosis and dermatitis ⁽¹⁾.

High Level of Essential Fatty Acids*

High supplementation with both omega-6 and omega-3 helps decrease inflammatory processes ⁽²⁾ and repair skin and coat.

Support Skin Barrier Effect

Richness in animal protein and essential fatty acids help reinforce natural skin defences, key factor in management of dermatosis and dermatitis in the long term.

ADDITIONAL BENEFITS & CHARACTERISTICS

Modulates Inflammation

Balanced 6:3 ratio helps reduce clinical signs related to inflammation (redness, itching).

High Digestibility and Digestive Tolerance

Addition of clay, prebiotics, probiotics and fibres helps maintain a healthy digestive tract to optimise the absorption of all the essential nutrients for skin and coat.

Withdrawal of major allergens

The diet is made without beef, gluten, maize, wheat, soya, egg, fish.

Immune Support

High protein content and added vitamin E help maintain a healthy immune system.

Suitable for all life stages

The amounts of all essential nutrients fit the daily requirements of all dogs at all stages or physiological status (puppies, adult dogs, gestating or lactating bitches, and senior dogs).

ANALYTICAL CONSTITUENTS
% as fed

• Moisture	9
• Protein	34
• Animal to vegetal protein ratio	92/08
• Fat	18
• Minerals	7.5
• Crude Fibre	5
• NFE*	26.5
• Starch	20
• Calcium	1.3
• Phosphorus	0.9
• Sodium	0.4
• Methionine + Cystine	1.3
• Phenylalanine + Tyrosine	2.1
• Omega-6 fatty acids	3
• LA	2.7
• Omega-3 fatty acids	1.1
• EPA+DHA	0.5

KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	375
• ME** measured in vivo (kcal/100g)	386
• Protein digestibility (in vivo; %)	87
• Fat digestibility (in vivo; %)	96
• Energy from protein (%)	33
• Energy from fat (%)	42
• Energy from NFE (%)	25
• Protein to Calorie ratio (g/Mcal)	91

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 26.5%

HIGH PROTEIN 34%

of ANIMAL ORIGIN 92%

COMPOSITION

Dehydrated pork and poultry proteins, potato starch, animal fats, hydrolysed pork and poultry proteins, faba bean hulls, peas, minerals, beet pulp, linseed, lignocellulose, fish oil, sunflower oil, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, brewers yeast, borage seed, *Lactobacillus acidophilus*, chondroitin sulfate.

SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• L-carnitine	330 mg/kg

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Underweight
3	70	85	95
5	95	120	135
8	135	165	185
10	155	195	215
15	205	255	280
20	245	305	335
25	285	355	390
30	320	400	440
40	390	485	535
60	510	640	700

The daily ration is based on the dog's CURRENT bodyweight, and must be adjusted every month.

*Adult dog with optimal body weight and low physical activity.



VISIBLE RESULTS WITHIN 2 WEEKS⁽¹⁾

9/9 ASSESSED PARAMETERS IMPROVED SIGNIFICANTLY WITHIN 2 WEEKS

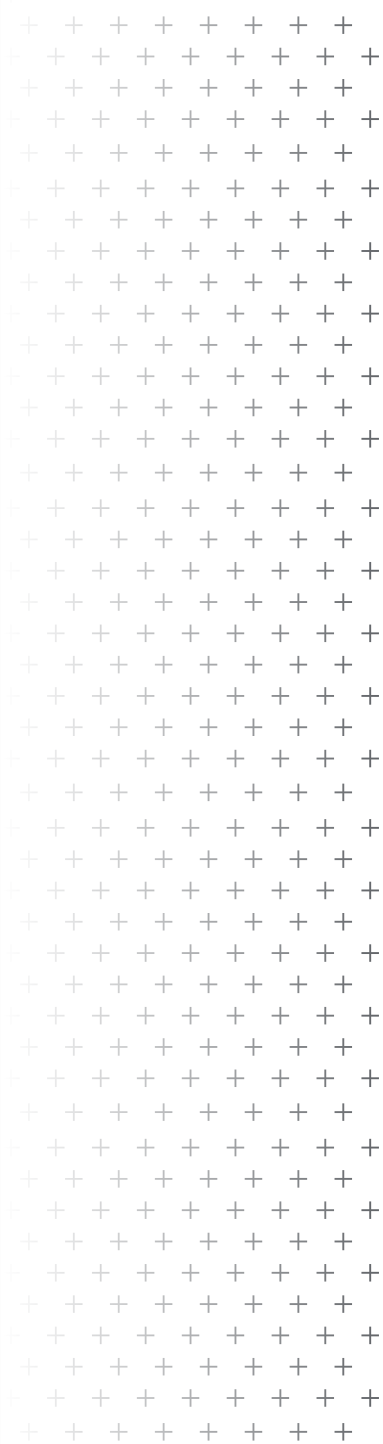
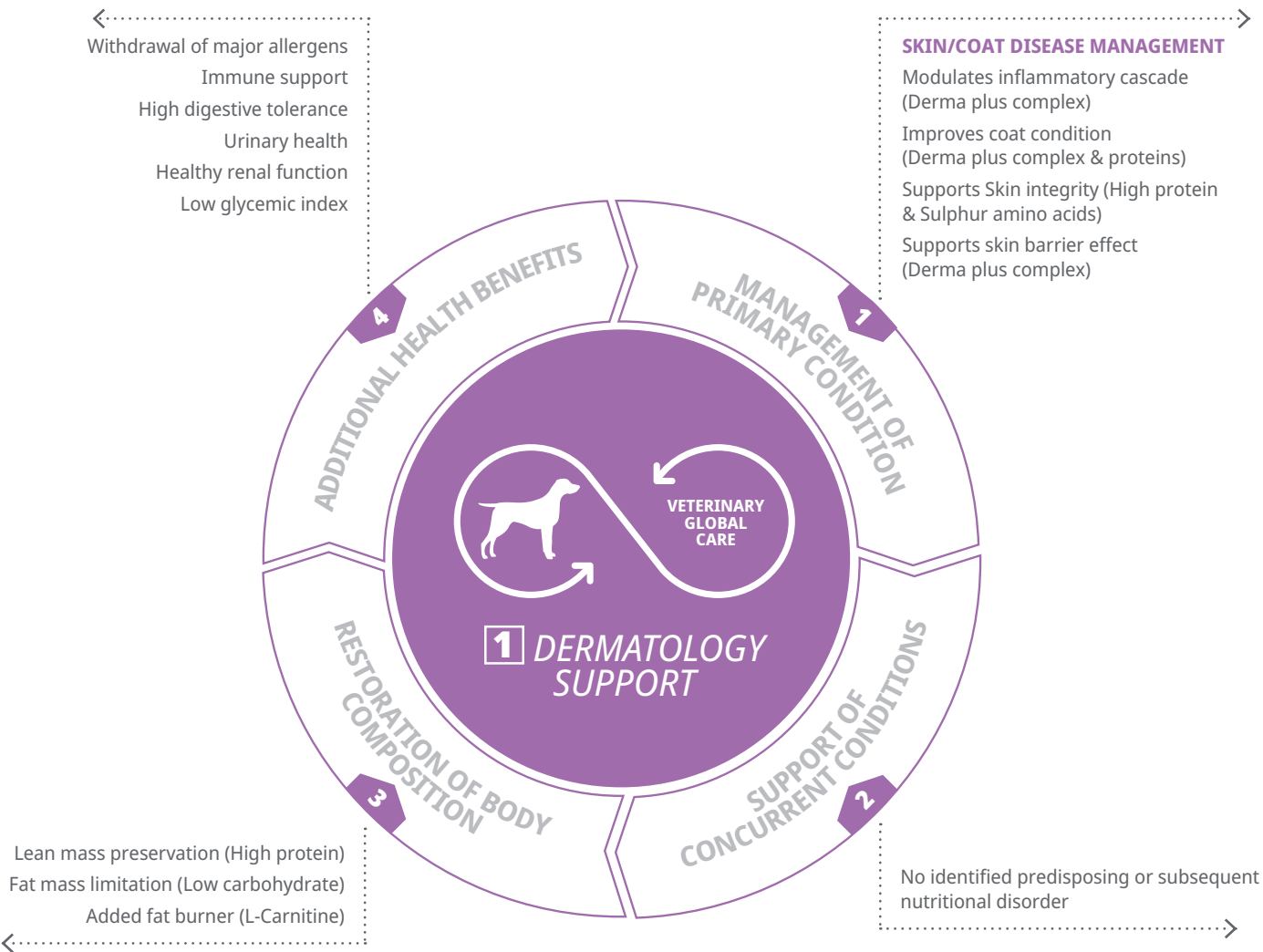
93% OF DOGS HAVE IMPROVED THEIR SKIN AND COAT CONDITION AT THE END OF THE STUDY

OUR STUDIES

Page 178



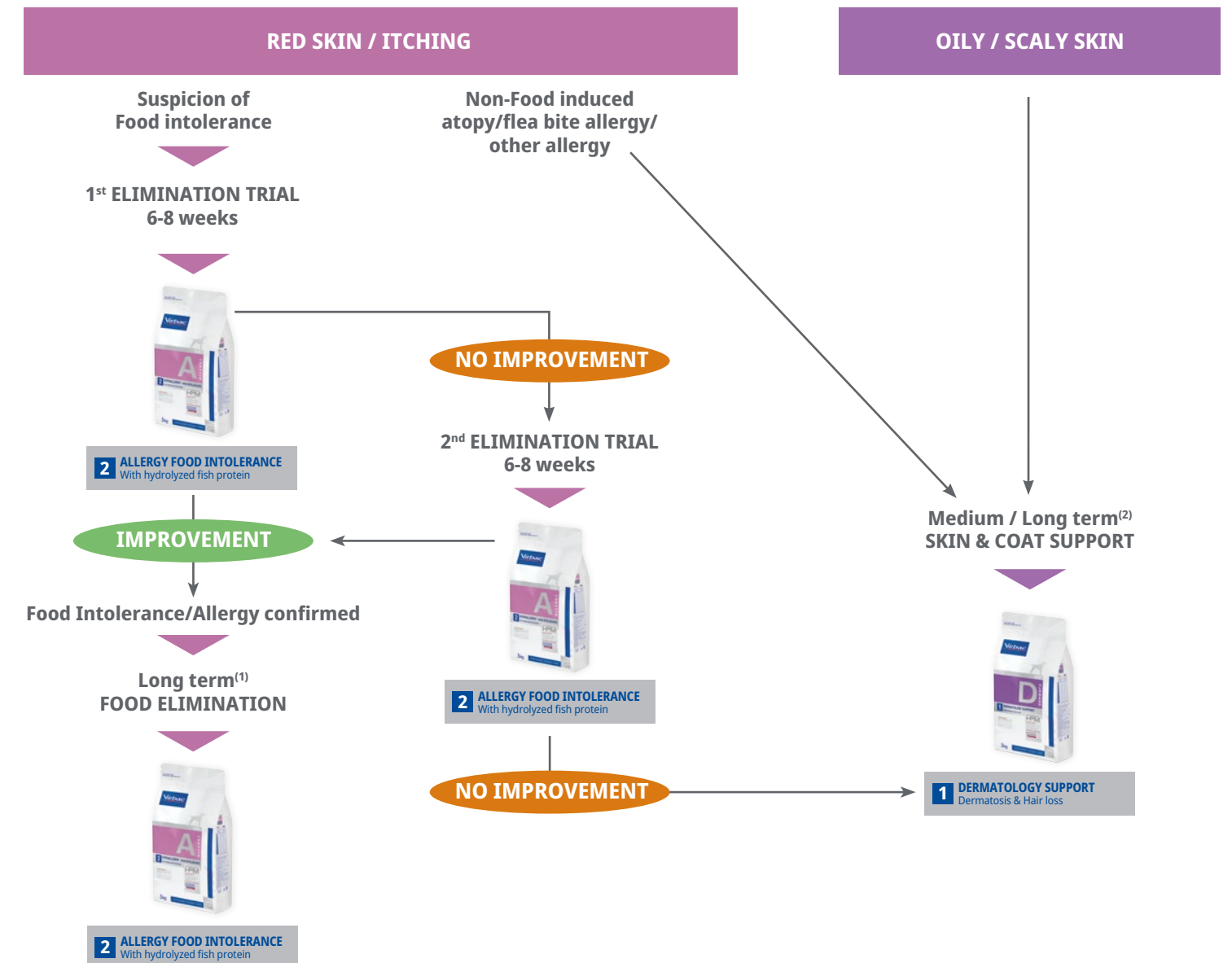
(1) I. Leriche et al., Assessment of a new high protein - high fatty acid diet in dogs with chronic skin and coat disorders. SEVC Congress 2016.
(2) Reme CA., Loyd DH., Burrows A. et al. Anti-allergic shampoo and oral essential fatty acid combination therapy to relieve signs of atopic dermatitis in dogs: a blinded, prednisolone-controlled trial. Vet Derm 2005; 16: 352-361.



A ALLERGY



CANINE SKIN & COAT DISEASE



1) If signs of intolerance disappear, this food can be used indefinitely (European Commission directive 2020/354)

2) Up to 2 months. It is recommended that a veterinarian's opinion be sought before use. (European Commission directive 2020/354)



AVAILABLE FORMATS

- 3 kg, 7 kg, 12 kg

DIETETIC INDICATIONS*

- Reduction of ingredient and nutrient intolerance (with associated skin and/or digestive disorders).

OTHER USE

- Food intolerance with concurrent digestive disorders (maldigestion/ malabsorption, diarrhea...).
- Food intolerance with concurrent skin/coat disorders (redness/itching).

CONTRAINDICATIONS

- Growth.
- Gestation & Lactation.
- Chronic Kidney disease

* Commission regulation (EU) 2020/354

ALLERGY

2 HYPOALLERGY FOOD INTOLERANCE
With hydrolysed fish protein

KEY BENEFITS & CHARACTERISTICS

Elimination Diet

Formula based on hydrolysed fish protein and potato starch allows management of most common food allergies.

Purified Source of Carbohydrate (single source)

Potato starch is a purified source of starch, excluding the presence of protein.

With Hydrolysed fish Protein*

Fish protein is extensively hydrolysed to achieve low molecular weight (mean MW of 1.40 kDa, 99% peptides below 10 kDa) ensuring food allergy management. Its high digestibility and biological value (amino acid profile) perfectly fit the daily requirements of dogs.

High Digestive Tolerance

Includes a specific association of ingredients (clay, probiotics, prebiotics, selected fibres) to secure the digestive function, which can be compromised in allergic dogs.

High Palatability

Richness in animal protein (fish) and animal fat guarantees high palatability for optimal compliance during the elimination food trial or in the long term⁽¹⁾.

ADDITIONAL BENEFITS & CHARACTERISTICS

Skin Integrity

Balanced omega-6 and omega-3 help reinforce natural skin defences and reduce the risk of other allergies.

Coat Support

Adapted content in protein and essential fatty acids helps maintain a healthy coat.

High Digestibility

High digestibility helps support dogs with concurrent compromised gastrointestinal function.

Suitable for Adult and Senior dogs

The amounts of all essential nutrients fit the daily requirement of adult and senior dogs.

ANALYTICAL CONSTITUENTS
% as fed

Moisture	9
Protein	24
Animal to vegetal protein ratio	100/00
Fat	18
Minerals	7
Crude Fibre	4.5
NFE*	37.5
Starch	36
Calcium	0.9
Phosphorus	0.7
Sodium	0.4
Methionine + Cystine	1.2
Omega-6 fatty acids	3
Omega-3 fatty acids	0.5

KEY NUTRIENT VALUES

ME** calculated (kcal/100g)***	377
ME** measured in vivo (kcal/100g)	384
Protein digestibility (in vivo; %)	91
Fat digestibility (in vivo; %)	97.5
Energy from protein (%)	23
Energy from fat (%)	42
Energy from NFE (%)	35
Protein to Calorie ratio (g/Mcal)	64

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 37.5%

HIGH PROTEIN 24%

of ANIMAL ORIGIN 100%

COMPOSITION

Potato starch⁽¹⁾, hydrolysed fish protein⁽²⁾ (24%), poultry fats, lignocellulose, minerals, hydrolysed pork and poultry proteins⁽²⁾, beet pulp, mono di and tri glycerides of fatty acids, fructo-oligosaccharides, brewers yeast, Lactobacillus acidophilus.

1) Carbohydrate source
2) Protein sources

SPECIFIC INGREDIENTS/ADDITIVES

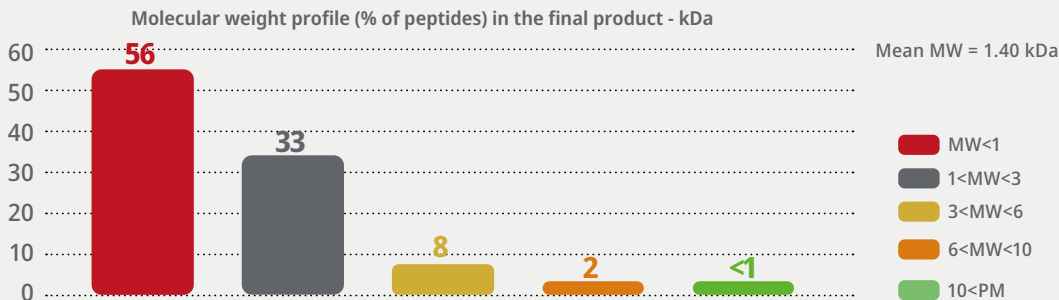
Bentonite	5 g/kg
Killed Lactobacilli	7 mg/kg
L-carnitine	330 mg/kg

FEEDING GUIDELINES

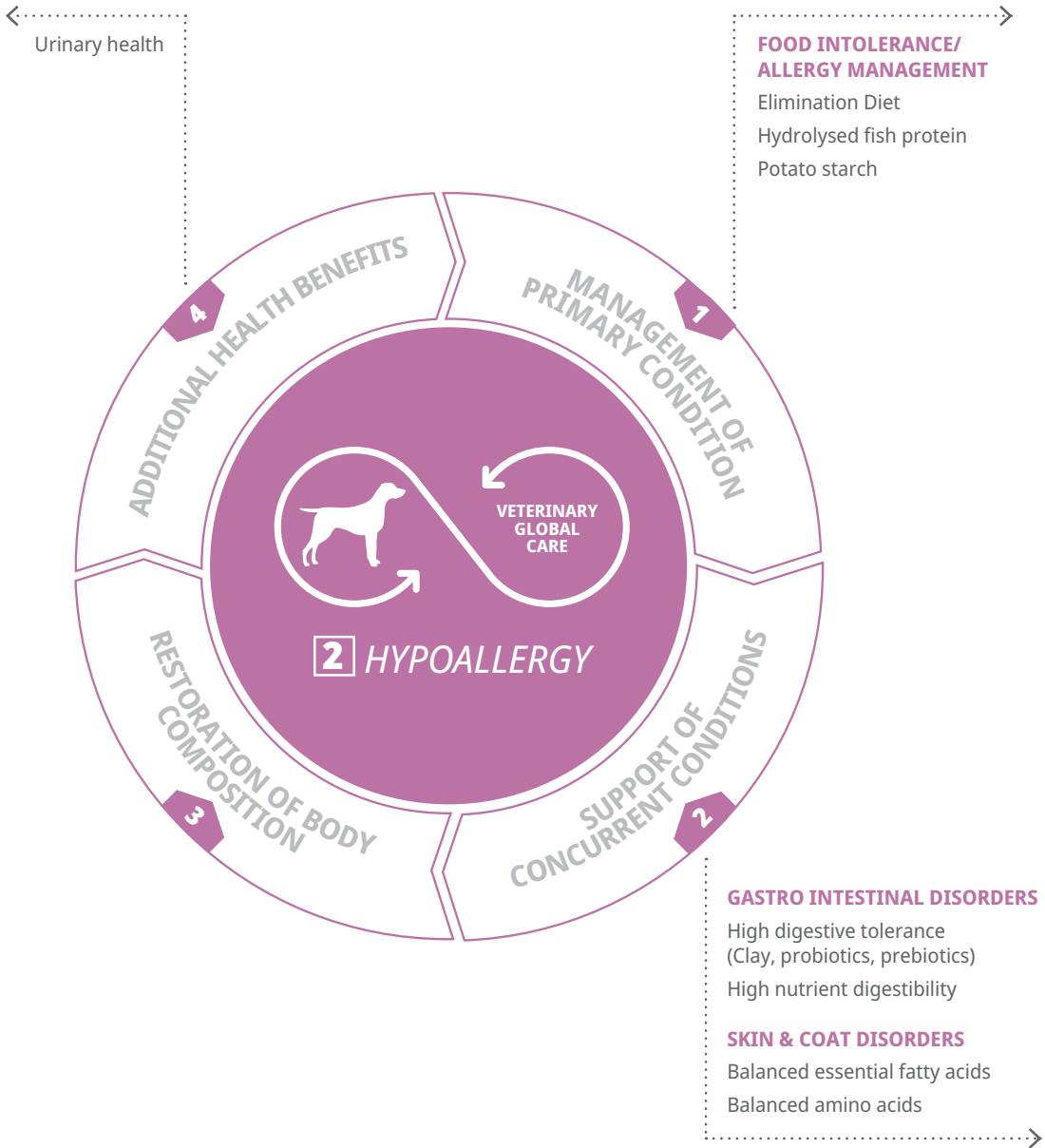
Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Underweight
3	70	85	95
5	95	120	135
8	135	165	180
10	155	190	210
15	200	250	275
20	245	305	335
25	285	355	390
30	320	400	440
40	390	485	535
60	510	635	700

The daily ration is based on the dog's CURRENT bodyweight, and must be adjusted every month. Always provide fresh drinking water.

*Adult dog with optimal body weight and low physical activity.



External laboratory analysis - Hydrolysis profile of Veterinary HPM® A2 for cats and Veterinary HPM® A2 for dogs, December 2025
(1) I. Leriche et al. Assessment of the palatability and digestive tolerance in cats of a new diet based on hydrolysed salmon as the protein source. Internal data 2018.



K

KIDNEY





> AVAILABLE FORMATS

- 3 kg, 12 kg

> DIETETIC INDICATIONS*

- Support of renal function in case of chronic renal insufficiency (or temporary).

> OTHER USE

- Chronic hepatic disorders.

> CONTRAINDICATIONS

- Growth.
- Gestation and lactation.

* Commission regulation (EU) 2020/354

> KEY BENEFITS & CHARACTERISTICS

> Low Phosphorus*

Low dietary phosphorus helps slow down the development of renal disease and minimize the risk of secondary hyperparathyroidism.

> Restricted Protein Level*

Restricted level and the high quality of protein help reduce the production of uremic toxins while maintaining sufficient kidney fluid turn over and body condition.

> Phosphorus Binding

Addition of Phosphorus binders (chitosan and calcium carbonate) helps reduce the phosphorus bioavailability.

> High Energy Density & Palatability

High energy density helps deliver small and concentrated daily rations, and palatability helps maintain sufficient daily food intake, to support patients against undernutrition⁽¹⁾.

> High EPA+DHA (omega-3)

High level of omega-3, especially EPA + DHA, helps modulate inflammatory processes in the kidney.

> ADDITIONAL BENEFITS & CHARACTERISTICS

> Increases Antioxidant Activity

High level of vitamin E helps promote antioxidant activity.

> Limits the risk of Digestive Ulcerations

Addition of Bentonite helps protect the digestive mucosa against damage linked to uremia.

> Limits the risk of Metabolic Acidosis

Addition of alkalising agents (calcium carbonate) helps limit the risk of metabolic acidosis.

> Limits the risk of Hyperparathyroidism

Increased calcium, with Ca:P ratio = 2, helps limit the side effect of high phosphataemia and limit the risk of secondary hyperparathyroidism.

> Limits the risk of Hypokalaemia

Increased dietary potassium content helps compensate for urinary losses and limit the risk of hypokalemia.

> Limits the risk of Lower Urinary Tract Disease

Adjusted RSS** for struvite and oxalate help maintain urinary health.

**RSS: Relative Super Saturation index

> Suitable for Adult and Senior dogs

The amounts of all essential nutrients fit the daily requirement of adult and senior dogs.

> ANALYTICAL CONSTITUENTS
% as fed

• Moisture	9
• Protein	20.5
• Animal to vegetal protein ratio	70/30
• Fat	22
• Minerals	5.5
• Crude Fibre	5.5
• NFE*	37.5
• Starch	30
• Calcium	0.8
• Phosphorus	0.4
• Sodium	0.3
• Potassium	0.8
• Omega-6 fatty acids	2.7
• Omega-3 fatty acids	1
• EPA+DHA	0.4

> KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	391
• ME** measured in vivo (kcal/100g)	395
• Protein digestibility (in vivo; %)	84
• Fat digestibility (in vivo; %)	95,5
• Energy from protein (%)	18
• Energy from fat (%)	48
• Energy from NFE (%)	34
• Protein to Calorie ratio (g/Mcal)	52

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW PHOSPHORUS 0.4%

RESTRICTED PROTEIN 20.5%

of ANIMAL ORIGIN 70%

> COMPOSITION

Rice, dehydrated pork and poultry proteins⁽¹⁾, animal fats, peas, potato starch, faba bean hulls, minerals, hydrolysed pork and poultry proteins⁽¹⁾, lignocellulose, linseed, beet pulp, fish oil, fructo-oligosaccharides, brewers yeast, hydrolysed crustacean (source of chitosan), *Lactobacillus acidophilus*, chondroitin sulfate.

1) Protein sources.

> SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• L-carnitine	330 mg/kg
• Chitosan	800 mg/kg
• Calcium carbonate	1%
• Vitamin E	570 mg/kg

> FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Underweight
5	75	85	100
8	100	115	140
10	120	135	160
15	155	175	210
20	190	210	255
25	220	245	295
30	245	280	335
40	300	335	405
60	390	440	530

The daily ration is based on the dog's CURRENT bodyweight, and must be adjusted every month. Always provide a generous supply of fresh drinking water.

*Adult dog with optimal body weight and low physical activity.



THE MOST SATISFACTORY DIET

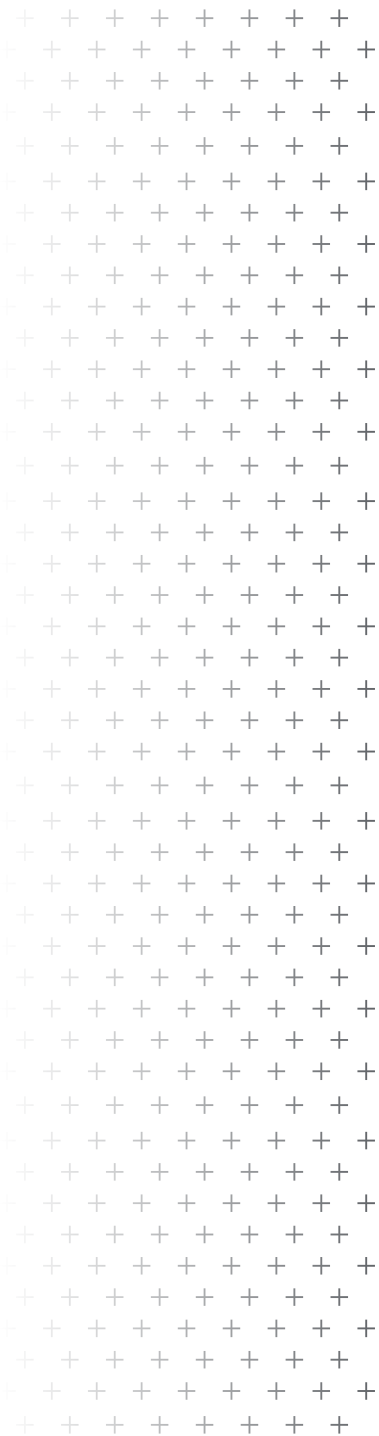
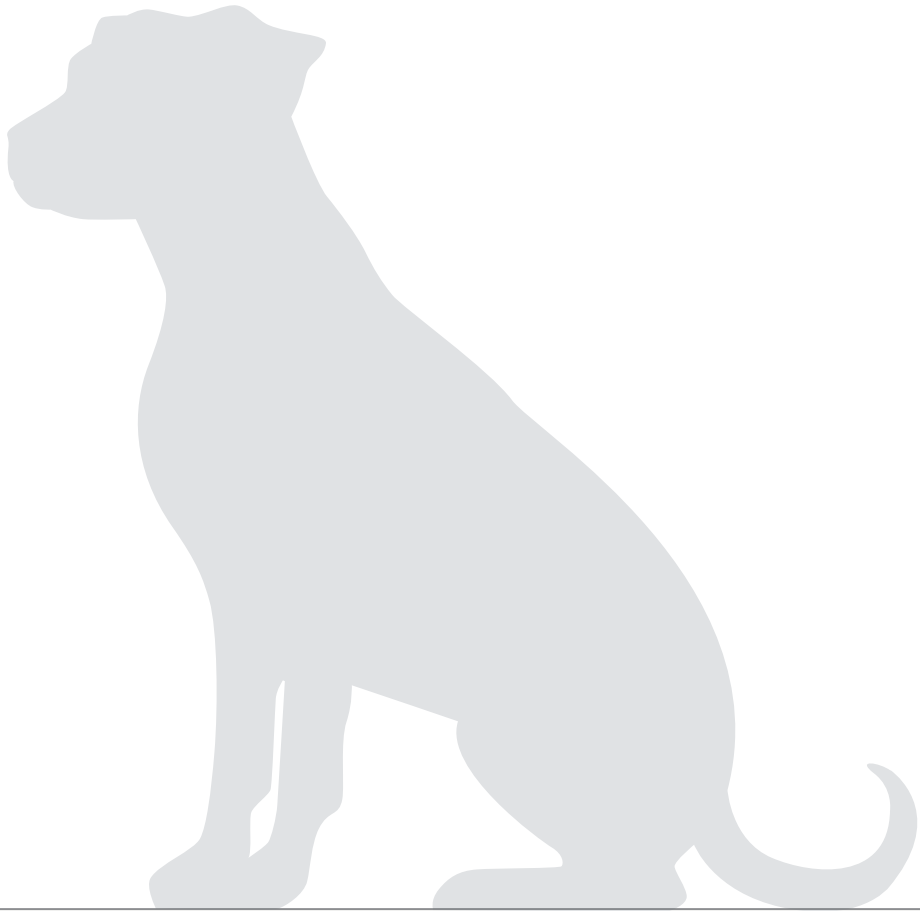
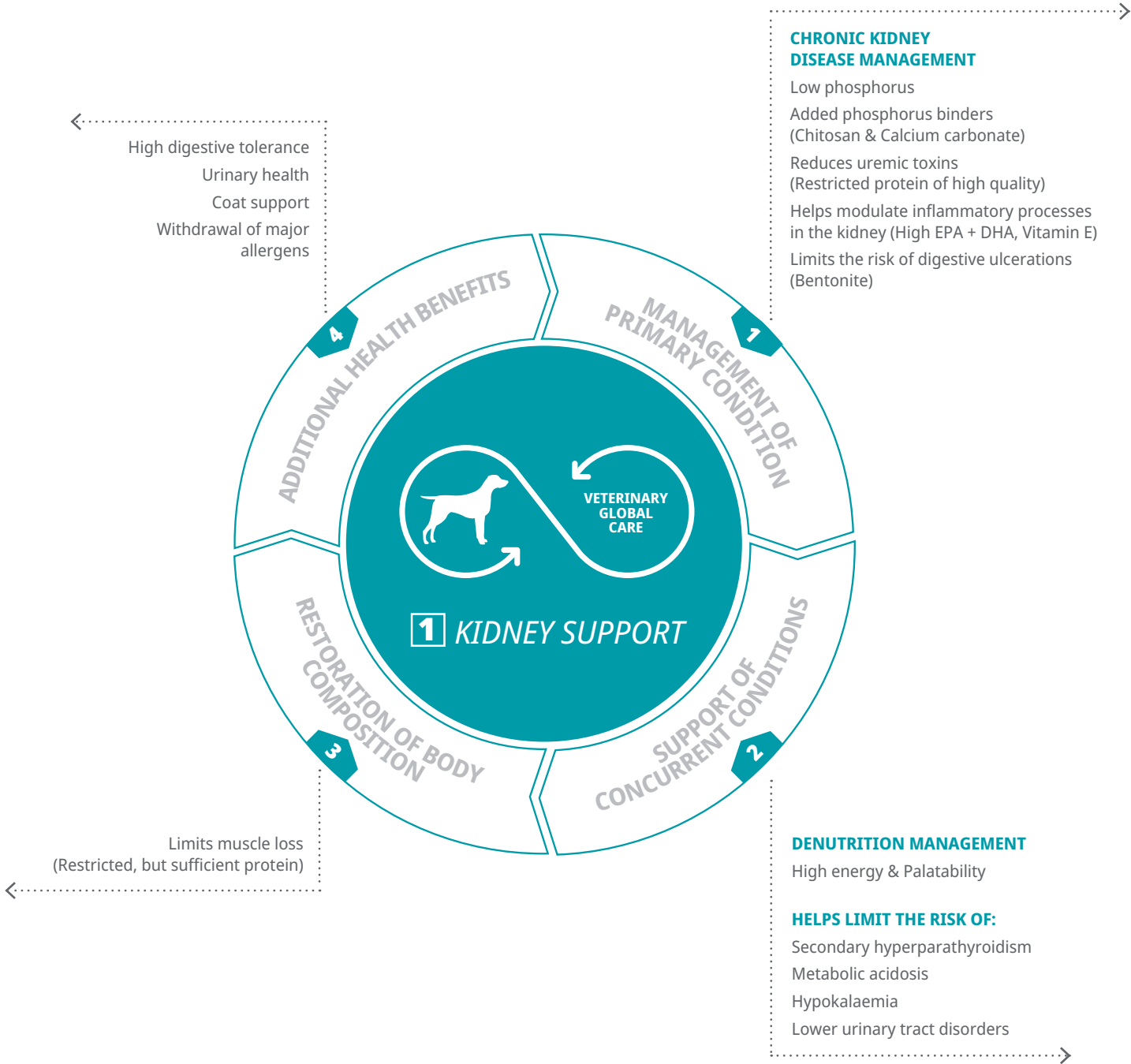
PROVEN HIGHER PALATABILITY AT D14 COMPARED TO MAIN COMPETITORS ⁽¹⁾

OUR STUDIES

Page 180

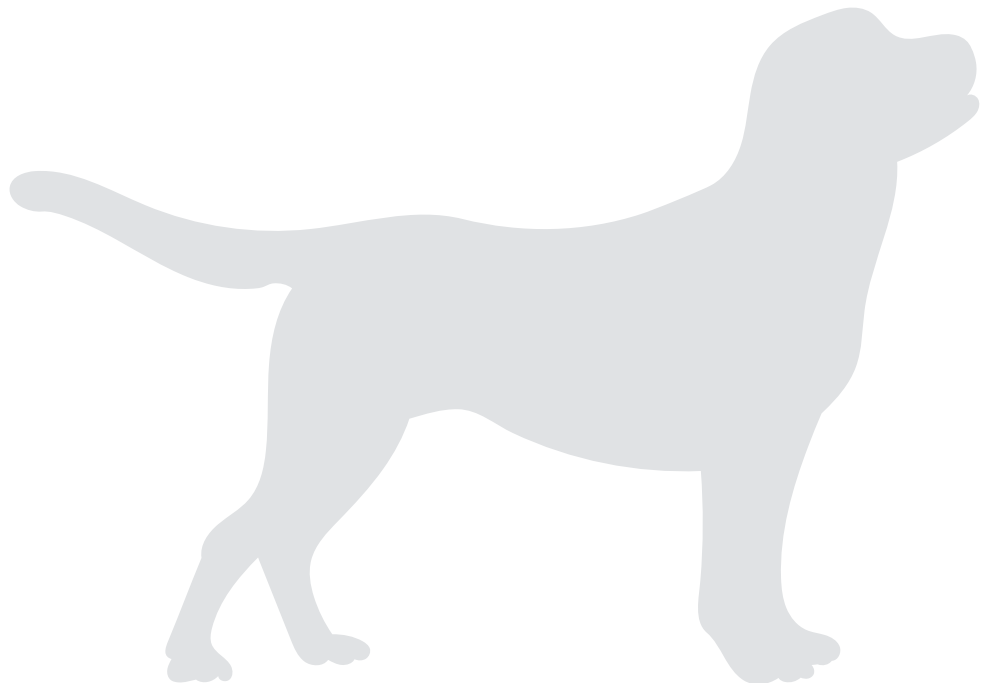


(1) A. Brugué et al. Comparative assessment of the palatability of a new renal diet in fussy canine eaters. Voorjaarsdagen, 2017.



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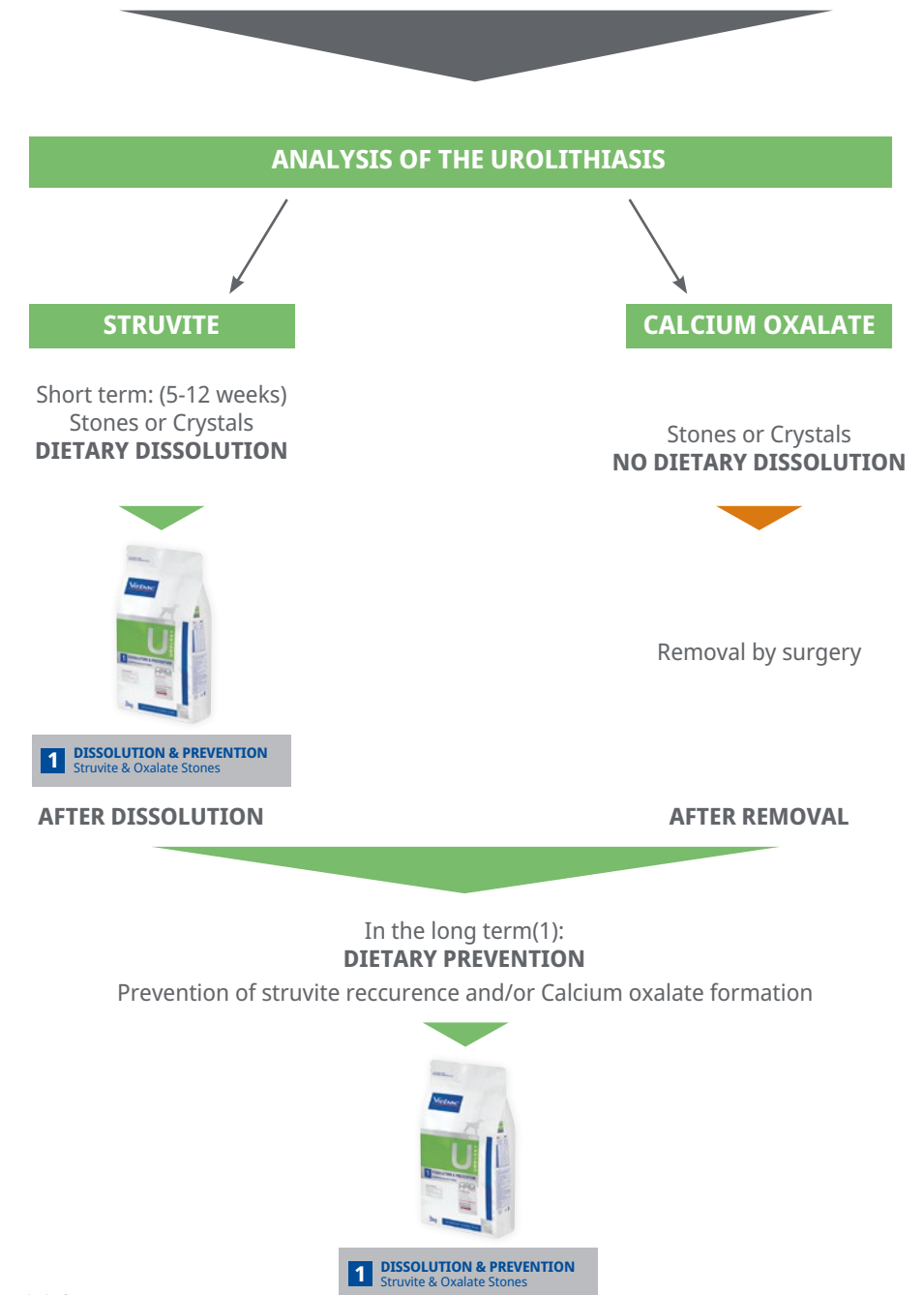
UROLOGY



UROLOGY DECISION TREE FOR RIGHT DIET CHOICE

DOG

DOGS SUFFERING FROM STRUVITE OR CALCIUM OXALATE UROLITHIASIS



1) A veterinarian's opinion should be sought before use.



AVAILABLE FORMATS

- 3 kg, 12 kg

DIETETIC INDICATIONS*

- Dissolution of struvite stones.
- Reduction of struvite stone recurrence.
- Reduction of oxalate stones formation.

CONTRAINDICATIONS

- Growth.
- Gestation and lactation.
- Chronic kidney disease (CKD).
- Cardiac insufficiency.

* Commission regulation (EU) 2020/354

KEY BENEFITS & CHARACTERISTICS

> Increases Water Intake

High amounts of protein and sodium stimulate water intake, increase urine volume and micturition frequency.

> Low Struvite RSS (<1)*

The formulation induces urine under-saturated for struvites, with struvite RSS** < 1, to promote dissolution of existing struvite stones/crystals and prevent recurrence⁽¹⁾. **RSS: Relative Super Saturation index

> Optimizes Urinary pH*

Urinary pH between 6.0 – 6.5 allows to prevent both struvite and oxalate crystals formation.

> High EPA+DHA (omega-3)

Addition of fish oil allows to achieve high amount of omega-3, especially EPA+DHA, and helps limit low urinary tract inflammation.

> Low Calcium & Phosphorus*

Low contents of Calcium and Phosphorus limit their urinary excretion and the risk of struvite and oxalate formation.

ADDITIONAL BENEFITS & CHARACTERISTICS

> Addition of Oxalate Inhibitor

Added Potassium citrate, as specific inhibitor, helps limit the formation of Calcium oxalate crystals.

> Oxalate RSS <12*

The formulation induces urine metastable for Calcium oxalates, with Oxalate RSS < 12⁽¹⁾.

> High Palatability

Richness in animal protein and fat guarantees high palatability and ensures maximum compliance in the long term.

> Suitable for Adult and Senior dogs

The amounts of all essential nutrients fit the daily requirement of adult and senior dogs.

ANALYTICAL CONSTITUENTS
% as fed

• Moisture	9
• Protein	34
• Animal to vegetal protein ratio	85/15
• Fat	17.5
• Minerals	7
• Crude Fibre	5
• NFE*	27.5
• Starch	22
• Calcium	0.8
• Phosphorus	0.6
• Sodium	0.9
• Potassium	0.7
• Magnesium	0.08
• Chloride	1.4
• Sulphur	0.7
• Methionine + Cystine	1.4
• Omega-6 fatty acids	2.2
• Omega-3 fatty acids	1
• EPA+DHA	0.4

KEY NUTRIENT VALUES

• ME** calculated (kcal/100g)***	374
• ME** measured in vivo (kcal/100g)	377
• Protein digestibility (in vivo; %)	88
• Fat digestibility (in vivo; %)	97
• Energy from protein (%)	33
• Energy from fat (%)	41
• Energy from NFE (%)	26
• Protein to Calorie ratio (g/Mcal)	91

* Nitrogen Free Extract
** Metabolisable energy
*** Calculated with NRC 2006

LOW CARBOHYDRATE (NFE) 27.5%

HIGH PROTEIN 34%

of ANIMAL ORIGIN 85%

COMPOSITION

Dehydrated pork and poultry proteins⁽¹⁾, rice, animal fats, peas, hydrolysed pork and poultry proteins⁽¹⁾, minerals, potato starch, lignocellulose, faba bean hulls, beet pulp, linseed, fish oil, psyllium fibre (*Plantago (L.) spp.*), fructo-oligosaccharides, brewers yeast, *Lactobacillus acidophilus*, chondroitin sulfate.

1) Protein sources.

SPECIFIC INGREDIENTS/ADDITIVES

• Bentonite	5 g/kg
• Killed Lactobacilli	7 mg/kg
• L-carnitine	330 mg/kg
• Potassium Citrate	0.3%

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Overweight	Normal*	Underweight
5	90	110	120
8	120	150	165
10	140	175	190
15	185	230	250
20	220	275	305
25	255	320	355
30	290	365	400
40	350	440	485
60	460	575	635

The daily ration is based on the dog's CURRENT bodyweight, and must be adjusted every month. It is normal to notice an important increase in water intake and urine volume.



41% OF STRUVITE STONE DISSOLVED WITHIN 5 DAYS IN AN *IN VITRO* TRIAL⁽¹⁾

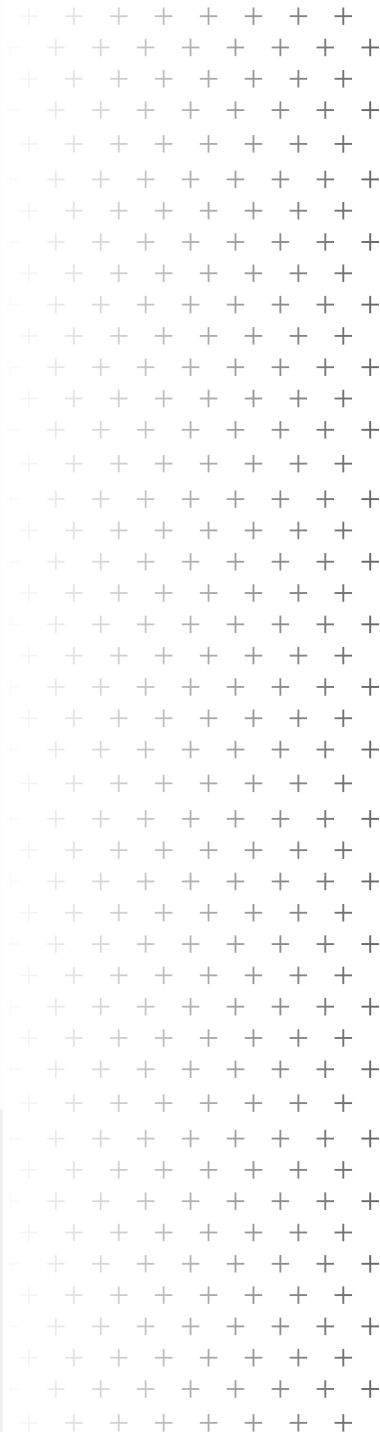
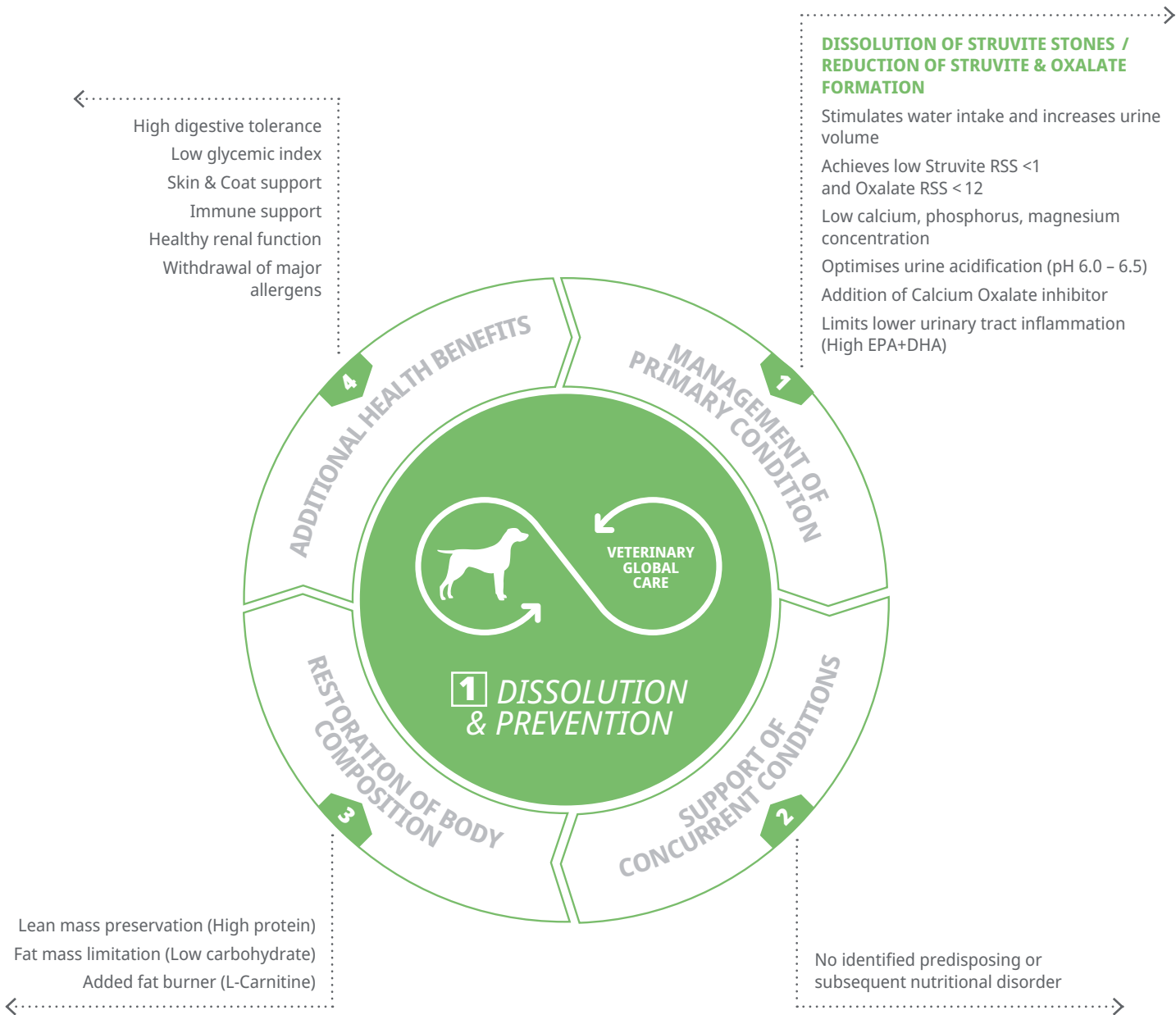
OUR STUDIES

Page 182



* Commission Directive 2020/354

(1) I. Leriche et al. Comparison of the effects of four diets on urinary parameters in dogs and in vitro struvite dissolution. SEVC Congress 2018.



NUTRITIONAL INFORMATION



DRY CANINE DIETETIC RANGE



AS FED (%)	UROLOGY DISSOL & PREV	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	JOINT & MOBILITY	DIGESTIVE SUPPORT	DERMATOLOGY SUPPORT	HYPOALLERGY FISH	KIDNEY SUPPORT
Moisture	9	9	9	9	9	9	9	9
Protein	34	34	34	34	34	34	24	20.5
Animal to vegetal protein ratio	85/15	94/06	88/12	85/15	92/08	92/08	100/00	70/30
Fat	17.5	11.5	13	15	22	18	18	22
Minerals	7	7.5	7.5	6.5	7.5	7.5	7	5.5
Crude cellulose	5	15	11	9	6	5	4.5	5.5
Total dietary fibre	10	23	17	15	10.5	8	7.5	10.5
Starch	22	14	18	18	17	20	36	30
Calcium	0.8	1.3	1.3	0.9	1.3	1.3	0.9	0.8
Phosphorus	0.6	0.9	1.1	0.7	0.9	0.9	0.7	0.4
Ca/P ratio	1.3	1.4	1.2	1.3	1.4	1.4	1.3	2.0
Sodium	0.9	0.4	0.4	0.4	0.6	0.4	0.4	0.3
Potassium	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.8
Magnesium	0.08	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Omega-6	2.2	2.2	2.2	2	2.5	3	3	2.7
Omega-3	1	0.7	0.9	3	0.9	1.1	0.5	1.0
Nitrogen Free Extract (NFE)	27.5	23	25.5	26.5	21.5	26.5	37.5	37.5
Metabolisable Energy (ME) (NRC 2006) (kcal/100g)	374	274	309	335	384	375	377	391
In vivo measured ME (kcal/100g) (NRC 2006)	377	285	302	353	411	386	384	395
Protein to calorie ratio (g/Mcal)	91	124	110	102	89	91	64	52
Calorie from protein (%)	33	40	37	35	31	33	23	18
Calorie from fat (%)	41	33	35	38	49	42	42	48
Calorie from NFE (%)	26	27	28	27	20	25	35	34
Urinary pH	6.0 - 6.5	6.3 - 6.7	6.3 - 6.7	6.3 - 6.7	6.3 - 6.7	6.3 - 6.7	6.3 - 6.7	6.5 - 7.0
Struvite RSS	<1	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Oxalate RSS	<12	<12	<12	<12	<12	<12	<12	<12
Added vitamins & trace elements:								
Vitamin A (IU/kg)	11000	12600	11000	11000	12600	11000	11000	11000
Vitamin D3 (IU/kg)	1100	1260	1100	1100	1100	1100	1100	1100
Vitamin E (mg/kg)	570	650	570	570	570	570	570	570
Vitamin B1 thiamine (mg/kg)	3.8	4.4	3.8	3.8	3.8	3.8	3.8	3.8
Vitamin B2 (riboflavine) (mg/kg)	11	12.6	11	11	11	11	11	11
Vitamin B3 (PP, niacine, nicotinic ac) (mg/kg)	30	34	30	30	30	30	30	30
Vitamin B5 (pantothenic ac) (mg/kg)	26	30	26	26	26	26	26	26
Vitamin B6 (pyridoxine) (mg/kg)	3	3.2	3	3	3	3	3	3
Vitamin B9 (folic ac) (mg/kg)	0.48	0.55	0.48	0.48	0.48	0.48	0.48	0.48
Vitamin B12 (cobalamine) (mg/kg)	0.062	0.071	0.062	0.062	0.071	0.062	0.062	0.062
Choline (mg/kg)	740	850	740	740	740	740	740	740
Taurine (mg/kg)	1500	1725	1500	1500	1500	1500	1500	1500
Copper (mg/kg)	15	17	15	15	15	15	15	15
Iron (mg/kg)	25	29	25	25	25	25	25	25
Iodine (mg/kg)	1.1	1.3	1.1	1.1	1.1	1.1	1.1	1.1
Zinc (mg/kg)	120	140	120	120	140	120	120	120
Specific functional ingredients / additives:								
Bentonite (g/kg)	5	5	5	5	5	5	5	5
Lactobacillus acidophilus (mg/kg)	7	7	7	7	7	7	7	7
Beta-glucan (mg/kg):	0	0	0	0	500	0	0	0
L-carnitine (mg/kg)	330	330	330	330	0	330	330	330
Chitosan (mg/kg)	0	440	215	1240	0	0	0	800
Chondroitine sulfate (mg/kg)	0	440	215	1240	0	0	0	0
Egg shell membran (mg/kg)	0	0	0	300	0	0	0	0
Nucleotides (mg/kg)	0	0	0	0	560	0	0	0
Butyrate (mg/kg)	0	0	0	0	430	0	0	0
K citrate (%)	0.3	0	0	0	0	0	0	0
Ca carbonate (%)	0	0	0	0	0	0	0	1

ON DRY MATTER (%)	UROLOGY DISSOL & PREV	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	JOINT & MOBILITY	DIGESTIVE SUPPORT	DERMATOLOGY SUPPORT	HYPOALLERGY FISH	KIDNEY SUPPORT
Protein	37.4	37.4	37.4	37.4	37.4	37.4	26.4	22.5
Fat	19.2	12.6	14.3	16.5	24.2	19.8	19.8	24.2
Minerals	7.7	8.2	8.2	7.1	8.2	8.2	7.7	6.0
Crude cellulose	5.5	16.5	12.1	9.9	6.6	5.5	4.9	6.0
Total dietary fibre	11.0	25.3	18.7	16.5	11.5	8.8	8.2	11.5
Starch	24.2	15.4	19.8	19.8	18.7	22.0	39.6	33.0
Calcium	0.9	1.4	1.4	1.0	1.4	1.4	1.0	0.9
Phosphorus	0.7	1.0	1.2	0.8	1.0	1.0	0.8	0.4
Ca/P ratio	1.3	1.4	1.2	1.3	1.4	1.4	1.3	2.0
Sodium	1.0	0.4	0.4	0.4	0.7	0.4	0.4	0.3
Potassium	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.9
Magnesium	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Omega-6	2.4	2.4	2.4	2.2	2.7	3.3	3.3	3.0
Omega-3	1.1	0.8	1.0	3.3	1.0	1.2	0.5	1.1
Nitrogen Free Extract (NFE)	30.2	25.3	28.0	29.1	23.6	29.1	41.2	41.2
Metabolisable Energy (ME) (NRC 2006) (kcal/100g)	411	301	340	368	422	412	414	430

ON 1000 KCAL (G)	UROLOGY DISSOL & PREV	WEIGHT LOSS & DIABETES	WEIGHT LOSS & CONTROL	JOINT & MOBILITY	DIGESTIVE SUPPORT	DERMATOLOGY SUPPORT	HYPOALLERGY FISH	KIDNEY SUPPORT
Protein	90.9	124.1	110.0	101.5	88.5	90.7	63.7	52.4
Fat	46.8	42.0	42.1	44.8	57.3	48.0	47.7	56.3
Minerals	18.7	27.4	24.3	19.4	19.5	20.0	18.6	14.1
Crude fibre (crude cellulose)	13.4	54.7	35.6	26.9	15.6	13.3	11.9	14.1
Total dietary fibre	26.7	83.9	55.0	44.8	27.3	21.3	19.9	26.9
Starch	58.8	51.1	58.3	53.7	44.3	53.3	95.5	76.7
Calcium	2.1	4.7	4.2	2.7	3.4	3.5	2.4	2.0
Phosphorus	1.6	3.3	3.6	2.1	2.3	2.4	1.9	1.0
Ca/P ratio	1.3	1.4	1.2	1.3	1.4	1.4	1.3	2.0
Sodium	2.4	1.5	1.3	1.2	1.6	1.1	1.1	0.8
Potassium	1.9	2.6	2.3	2.1	2.1	1.9	1.9	2.0
Magnesium	0.2	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Omega-6	5.9	8.0	7.1	6.0	6.5	8.0	8.0	6.9
Omega-3	2.7	2.6	2.9	9.0	2.3	2.9	1.3	2.6
Nitrogen Free Extract (NFE)	73.5	83.9	82.5	79.1	56.0	70.7	99.5	95.9

NUTRITIONAL INFORMATION



WET CANINE DIETETIC RANGE



AS FED (%)	WET DIGESTIVE SUPPORT
Moisture	72
Protein	13
Animal/vegetal protein ratio	87/13
Fat	9.5
Minerals	2.4
Crude cellulose	1.1
Starch	0.4
Calcium	0.26
Phosphorus	0.18
Ca/P ratio	1.4
Sodium	0.25
Potassium	0.33
Magnesium	0.03
Omega-6	2.5
Omega-3	0.75
Nitrogen Free Extract (NFE)	2
Metabolisable Energy (ME) (NRC 2006) (kcal/100g)	144
In vivo measured ME (kcal/100g)	151
Protein to calorie ratio (NRC 2006) (g/Mcal)	90
Calorie from protein (%)	36
Calorie from fat (%)	59
Calorie from NFE (%)	5
URINARY PH	6.3 - 6.7
STRUVITE RSS	< 2.5
Ca oxalate RSS	< 12

Total vitamins & trace elements:

VITAMIN A (IU/KG)	22000
VITAMIN D3 (IU/KG)	240
VITAMIN E (MG/KG)	200
VITAMIN B1 THIAMINE) (MG/KG)	1.8
VITAMIN B2 (RIBOFLAVINE) (MG/KG)	5
VITAMIN B3 (PP. NIACINE. NICOTINIC AC) (MG/KG)	40
VITAMIN B5 (PANTOTHENIC AC) (MG/KG)	9
VITAMIN B6 (PYRIDOXINE) (MG/KG)	1.5
VITAMIN B8 (BIOTINE. VITAMIN H) (MG/KG)	0.08
VITAMIN B9 (FOLIC AC) (MG/KG)	0.2
VITAMIN B12 (COBALAMINE) (MG/KG)	0.03
CHOLINE (MG/KG)	1000
TAURINE (MG/KG)	1000
COPPER (MG/KG)	5
IRON (MG/KG)	40
IODINE (MG/KG)	0.8
MANGANESE (MG/KG)	8
SELENIUM (MG/KG)	0.4
ZINC (MG/KG)	40

Specific functional ingredients / additives	WET DIGESTIVE SUPPORT
Bentonite (mg/kg)	900

ON 1000 kcal (g)

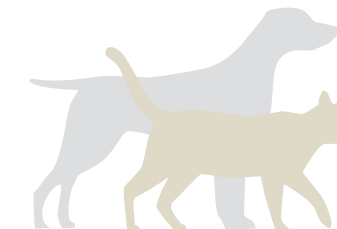
Protein	90.3
Fat	66
Minerals	16.7
Crude cellulose	7.6
Starch	2.8
Calcium	1.8
Phosphorus	1.3
Sodium	1.7
Potassium	2.3
Magnesium	0.2
Omega-6	17.4
Omega-3	5.2
Nitrogen Free Extract (NFE)	13.9
Vitamin A (IU/kg)	15278
Vitamin D3 (IU/kg)	167
Vitamin E (mg/kg)	139
Vitamin B1 (thiamine) (mg/kg)	1.3
Vitamin B2 (riboflavine) (mg/kg)	3.5
Vitamin B3 (PP, niacine, nicotinic ac) (mg/kg)	27.8
Vitamin B5 (pantothenic ac) (mg/kg)	6.3
Vitamin B6 (pyridoxine) (mg/kg)	1
Vitamin B8 (biotine, vitamin H) (mg/kg)	0.06
Vitamin B9 (folic ac) (mg/kg)	0.14
Vitamin B12 (cobalamine) (mg/kg)	0.02
Choline (mg/kg)	694
Taurine (mg/kg)	694
Copper (mg/kg)	3.5
Iron (mg/kg)	27.8
Iodine (mg/kg)	0.6
Manganese (mg/kg)	5.6
Selenium (mg/kg)	0.3
Zinc (mg/kg)	27.8



SCIENTIFIC STUDIES



PUBLICATIONS LIST



> FELINE STUDIES

> CHITOSAN IMPACTS PHOSPHORUS DIGESTIBILITY - SEVC	148
> URINARY PARAMETERS AND IN VITRO STRUVITE DISSOLUTION - ESVCN	150
> EFFICIENCY IN CATS WITH STERILE STRUVITE UROLITHS - ECVIM	152
> WATER INTAKE & URINARY VOLUME VS COMPETITORS - ISFM	154
> BC & INSULIN SENSITIVITY BEFORE AND AFTER WEIGHT LOSS - ESVCN	156
> SOFT WEIGHT LOSS IN CLIENT-OWNED OBESE CAT - SEVC	158
> EFFICIENCY IN CATS WITH CHRONIC GASTROINTESTINAL DISEAS - ISFM	160
> MIXED FEEDING EFFICIENCY IN CATS WITH CHRONIC GASTROINTESTINAL DISEASE - WFC	162
> EFFICIENCY IN CATS WITH CHRONIC SKIN & COAT DISORDERS - SEVC	164

> CANINE STUDIES

> G&I KINETIC IN A DOG MODEL OF INSULIN RESISTANCE - ESVCN	166
> EFFICACY FOR WEIGHT LOSS VS HILL'S METABOLIC - SEVC	168
> SOFT WEIGHT LOSS IN CLIENT-OWNED OBESE DOGS - ESVCN	170
> ASSESSMENT IN DOGS WITH CHRONIC JOINT DISORDERS - AHVM	172
> EFFICIENCY IN DOGS WITH CHRONIC GASTROINTESTINAL DISEASE - ESVCN	174
> MIXED FEEDING EFFICIENCY IN DOGS WITH CHRONIC GASTROINTESTINAL DISEASE - ESCVN	176
> EFFICIENCY IN DOGS WITH CHRONIC SKIN & HAIR DISORDERS - SEVC	178
> PALATABILITY IN SENIOR & FUSSY DOGS VS COMPETITORS - VOORJAARSDAGEN	180
> URINARY PARAMETERS & IN VITRO STRUVITE DISSOLUTION - SEVC	182



EFFECT OF CHITOSAN SUPPLEMENTATION IN A DRY MAINTENANCE DIET ON PHOSPHORUS APPARENT DIGESTIBILITY IN CATS

INTRODUCTION

Dietary phosphorus restriction has been shown to slow down kidney dysfunction and is one of the cornerstones of CKD management^{1,2}. Intestinal phosphate binders are additional tools useful in helping to control dietary phosphorus bioavailability and absorption^{3,4}. Chitosan is a natural polysaccharide obtained from crustacean shells chitin. Thanks to its cationic amino groups, chitosan can adsorb different acidic metabolites in the digestive lumen. This functional ingredient has been successfully used in humans and animals with reduced renal function, to decrease dietary phosphorus absorption and lower serum phosphate level⁵⁻¹⁰. Incorporation of chitosan into the daily diet could make easier its spontaneous intake, especially in intractable or fussy pets.

The aim of this study was to assess the effect of chitosan included in a dry maintenance diet on phosphorus apparent digestibility in cats.

ANIMALS, MATERIALS AND METHODS

Two groups of 7 healthy adult cats were used in digestibility trials to compare 2 dry diets, “Control” and “Chitosan”, in a cross over design (the duration of each trial was 3 weeks). The Control diet was a commercial dry diet intended for senior cats. The only difference between the 2 diets was chitosan added in the Chitosan diet (dose: 865 mg/kg DM) and included in the kibbles (Table 1). Faecal parameters (quantity, consistency, composition) were assessed and apparent digestibility coefficients of nutrients were determined.

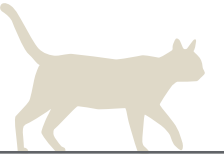
NUTRITIONAL CHARACTERISTICS OF THE TESTED DIETS (% DM)	
Crude protein	36.0
Crude fat	19.8
Crude fibre	2.8
Crude ash	5.8
Phosphorus	0.6
Calcium to phosphorus ratio	1.5

TABLE 1

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RESULTS

All cats consumed normally their daily ration and their body weight remained constant throughout the study. The mean apparent digestibility coefficients of nutrients are shown in Table 2. The mean phosphorus apparent digestibility coefficient was significantly reduced with the Chitosan diet compared to the Control diet. The mean protein apparent digestibility coefficient was also significantly lower with the Chitosan diet, however it remained in the reference range for a premium petfood¹¹. The other digestibility coefficients did not differ between the 2 diets. The faeces characteristics were not significantly impacted by chitosan supplementation: the mean faeces quantity was 48.3±7.9 and 51.6±9.1 g faeces/100 g of ingested DM and the mean DM content of the faeces was 36.0±3.4 % and 35.7±4.1 %, with the Control and Chitosan diets respectively.

MEAN APPARENT DIGESTIBILITY COEFFICIENTS OF DIETARY NUTRIENTS			
Apparent digestibility coefficient (%)	Control diet	Chitosan diet	p
Phosphorus	41.5±2.0	35.8±8.5	0.023
Protein	88.3±1.9	86.9±2.0	0.019
Dry matter	86.0±2.0	84.9±1.8	0.058
Organic matter	88.2±1.8	87.2±1.7	0.057
Energy	88.9±1.7	88.7±2.8	0.79

TABLE 2

(1) Boyd LM et al. J Vet Intern Med 2008; (2) Ross LA et al. Am J Vet Res 1982; (3) DiBartola SP. Proceed SEVC Congress, Barcelona, Spain 2011; (4) IRIS recommendations 2013; (5) Jing SB et al. J Pharmacol 1997; (6) Baxter J et al. J Pharmacol 2000; (7) Nagano N et al. Nippon Yakurigaku Zasshi 1995; (8) Wagner E et al. Berl Munch Tierarztl Wochenschr 2004; (9) Pechereau D. Proceed AFVAC Congress, Nantes, France 2003; (10) Brown SA et al. Intern J Appl Res Vet Med 2008; (11) FEDIAF Nutritional guidelines 2014.

CONCLUSION

This preliminary study shows that addition of chitosan (865 mg/kg DM) in a dry cat food reduces efficiently the phosphorus apparent digestibility, with no impact on the overall digestibility of the diet and the faeces characteristics of cats fed this diet. Chitosan could therefore be advantageous as an intestinal phosphate binder included in a veterinary “renal” diet, by helping control of phosphorus absorption and helping phosphatemia management in the long term.



EFFECT OF A NEW HIGH PROTEIN - LOW CARBOHYDRATE DIETS ON URINARY PARAMETERS IN CATS IN VITRO STRUVITE DISSOLUTION

› INTRODUCTION

Beside urine pH, the relative supersaturation (RSS) plays an important role in dissolution of struvite uroliths and prevention of the formation of calcium oxalate uroliths in cats¹. In an in vitro dissolution trial, Van Hoek et al. showed that RSS was a better predictor for struvite dissolution than the urinary pH².

The aim of this study was to assess the urinary parameters and struvite crystal solubility in cats fed 3 new high-protein dry diets, in comparison to that of 2 commercial dry diets.

› ANIMALS, MATERIALS AND METHODS

Each of 10 healthy adult cats was fed each diet (D1-D5) for a period of 7 days (dietary adaptation) prior to a 7 to 9 days collection period, in a cross-over design. D1, D2 and D3 were 3 test diets for cats, with a high protein and low carbohydrate content. D1 was intended for maintenance of adult cats. D2 was intended for “reduction of struvite stone recurrence” and D3 for “dissolution of struvite stones”. D4* and D5** were commercial diets for cats, intended for “dissolution of struvite stones”, used as references in this study. Daily rations were calculated to maintain the cats’ body weight. Cats were housed in single cages which allowed to collect the urine. Food intake, water intake, urine volume and specific gravity were documented. Urine analyses and RSS calculations were done at the Institute of Animal Nutrition, Veterinary Faculty, Berlin.

For the in vitro dissolution trial, 1 g of struvite crystal (ammonium magnesium phosphate hexahydrate 98 %; VWR, Vienna, Austria) was mixed with 20 ml of the filtered (5892 White Ribbon S&S) urine, 6 of these samples were prepared for each diet. Samples were stored in a 38 °C water bath and shaken (80/min). After 2 days, 3 respective samples were filtered, dried and weighed. The same procedure followed after 5 days for the remaining 3 samples of each diet.

NUTRITIONAL CHARACTERISTICS OF THE 3 TEST DIETS

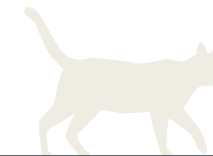
	Diet 1	Diet 2	Diet 3
Crude protein (% ME)	46	46	44
Crude fat (% ME)	36	34	38
Nitrogen Free Extract (% ME)	18	20	18
In vivo ME (kcal/100g)	407	413	420
Sodium (% DM)	0.80	1.14	1.36

TABLE 1

D. Formankova¹, I. Leriche², C. Iben¹

¹Department of Farm Animals and Veterinary Public Health, University of Veterinary Medicine, Vienna, Austria

²Research & Development Department, Virbac Nutrition, Vauvert, France



› RESULTS

There was no significant difference in mean water intake, urinary volume and specific gravity between the 5 groups. The mean urinary pH varied from 6.0 to 6.5, it was significantly lower with D5 (Table 2). The Ca oxalate RSS varied from 4.29 to 6.58, with no significant difference between groups, and was within the range of metastable supersaturation ($1 < \text{oxRSS} < 12$) with all the diets. The struvite RSS with D1 was in the range of metastable supersaturation ($1 < \text{stRSS} < 2.5$), the other diets generated undersaturated urines with $\text{stRSS} < 1$. The struvite solubility after 5 days was statistically similar with D1, D2 and D4, and was significantly higher with D3 and D5. There was a significant correlation (-0.401) between the struvite RSS and the struvite solubility after 5 days (Fig. 1).

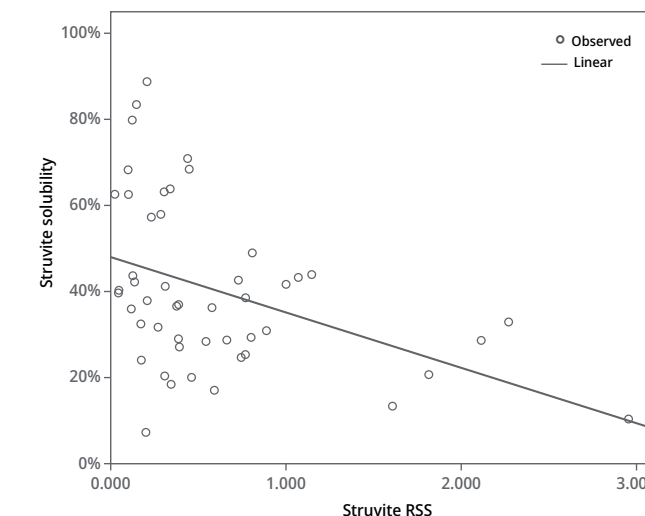
URINARY PARAMETERS WITH THE DIFFERENT DIETS

	Diet 1	Diet 2	Diet 3	Diet 4	Diet 5
Urinary pH	6.5±0.2	6.5±0.2	6.4±0.2	6.5±0.2	6.0±0.1
Struvite RSS	1.11±0.82	0.64±0.34	0.45±0.66	0.60±0.58	0.23±0.23
Ca oxalate RSS	4.35±2.41	4.68±2.68	5.89±4.02	4.29±2.54	6.58±5.17

TABLE 2

*Royal Canin Veterinary Exclusive Feline Urinary S/O **Hill's Prescription Diet s/d Feline Dissolution
References: (1) Smith et al. J Nutr 1998; 128: 2763S-2764S. (2) Van Hoek et al. Vet Focus 2009; 19: 47-48.

Fig. 1: Correlation between struvite RSS and struvite solubility after 5 days



CONCLUSION

The results of this study show that the test high-protein diets D2 and D3 are as efficient as the reference diets D4 and D5 for struvite dissolution. They could be recommended for both dissolution and prevention of struvite stones, and reduction of calcium oxalate stones formation in cats.



EFFICACY AND SAFETY OF TWO NEW HIGH PROTEIN – LOW CARBOHYDRATE DRY DIETS IN STERILE, FELINE STRUVITE UROLITHIASIS

INTRODUCTION

Urolithiasis is a common cause of Feline Lower Urinary Tract Disease(FLUTD). The most common feline uroliths are calcium oxalate and struvite. Dietary dissolution is safe and effective for eradication of sterile struvite uroliths in cats. Richness in moisture and/or sodium and/or Protein in order to increase water intake and thus to increase diuresis, urinary flow and the frequency of micturition may vary between commercially diets.

ANIMALS, MATERIALS AND METHODS

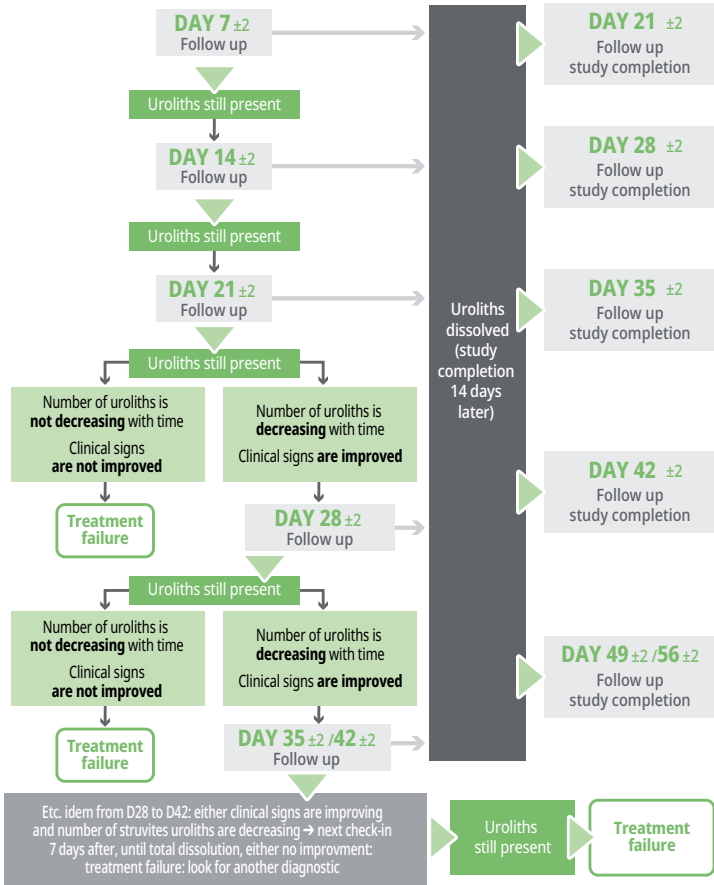
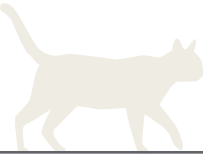
This prospective, multicenter, randomized, double blinded clinical trial evaluated the efficacy and safety of **two new high protein-low carbohydrate dry diets** (table 1) **in sterile, struvite urolithiasis** in cats with signs of non-obstructive FLUTD. Cats enrolled in the study were **randomly** assigned either to diet A*, formulated to achieve dissolution and prevention of struvite uroliths, or to diet B**, formulated to dissolve struvite uroliths. Cats were followed up to 14 days after the uroliths had been dissolved, latest to D56±2. Physical examination,urinalysis,and abdominal ultrasound were performed weekly (figure1). Analyses were performed using the software SAS® version 9.4. The significance threshold was set to a=0.05 two-sided.

RESULTS

Thirty three cases were recruited and supplied with DietA(n=17) or DietB(N=16) according to the randomization procedure. Groups were comparable (table2). The meantime of struvite dissolution **was 13.1 days and 14 days** respectively for diet A and DietB (n.s). The meantime to disappearance of at least one urinary sign was **7 days** for diet A and **11.4 days** for diet B(p=0.03). On D7,70.6% of cat from group A and 68.8% of cat from group B had no more urinary signs (n.s)(table3). **Mean urinary pH** was decreased in groups A and B at the end of the study (6,1±0.5and6±0.6, respectively) compared to D0(7,2±0.8and7,2±0.7,

respectively). In group B, **urine specific gravity** significantly decreased (p=0.01) from D0 (1.046±9.8)to the end of the study(1.036±12.5). In group A, urine specific gravity decrease was not significant. According to owners' assessment, palatability was considered as good to very good in 88.2% and 93.6% of cats with Diet A and B respectively.Two and 4 cats of groups A and B respectively exhibited transitory adverse events, possibly related to the diet (mild diarrhea or mild vomiting).These events resolved spontaneously and did not lead to the exclusion of any cat.

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*Virbac VETERINARY HPM Urology Dissolution & Prevention cat
**Virbac VETERINARY HPM Urology Struvite Dissolution cat

COMPARISON OF THE TEST DIETS (DM: DRY MATTER)		
Analytical constituents (% DM)	Diet A*	Diet B**
Protein	46.5	46.5
Fat	14.3	16.9
Crude Fibre	6.9	4.2
Calcium	0.74	0.69
Phosphorus	0.74	0.69
Magnesium	0.09	0.09
Sodium	1.16	1.38

TABLE 1

COMPARABILITY OF BASELINE DATA			
Baseline Characteristics	A n = 17	B n = 17	p-Value
Breed: n (%)			
European Shorthair	14 (82.4%)	13 (81.3%)	
European	1 (5.9%)	1 (6.3%)	
Main Coon	1 (5.9%)	1 (6.3%)	
Persian	1 (5.9%)	0(0.0%)	>0.99
Sphynx	0 (0.0%)	1(6.3%)	
Sex			
Female neutered	5 (29.4%)	5 (31.3%)	
Male (intact and neutered)	12 (70.6%)	11 (68.8%)	>0.99
Age (y)			
Mean (SD)	4.86 (3.29)	4.46 (3.68)	
Min	1.75	1	
Max	13	14	0.49
Body Weight (kg)			
Mean (SD)	5.6 (1.7)	4.9 (1.6)	
Min	3.4	3.2	
Max	8.7	8.5	0.21

TABLE 2

DISAPPEARANCE OF AT LEAST ONE URINARY SIGN			
	A n = 17	B n = 16	p-Value
Time of disappearance of at least one urinary sign (days) Mean (SD)	7 (0.0)	11.4 (9.5)	>0.03 ²
Disappearance of at least one urinary sign on Day 7 n (%)	17 (100%)	12 (75%)	>0.04 ¹

TABLE 3

CONCLUSION

The new high protein–low carbohydrate tested diets were effective for dissolution of feline struvite urolithiasis.



ASSESSMENT OF WATER INTAKE AND URINE VOLUME IN CATS FED A NEW HIGH-PROTEIN HIGH-SODIUM DRY DIET

INTRODUCTION

Environmental enrichment and stress reduction are common recommendations to help manage clinical cases of feline idiopathic cystitis (FIC). Dietary manipulation is also commonly recommended, typically aiming to increase water intake, resulting in production of an increased volume of more diluted urine.

The objective of this study was to evaluate water intake and urine volume in cats fed a new dry diet designed to help management of FIC, in comparison with a control dry diet.

ANIMALS, MATERIALS AND METHODS

Eight healthy European adult neutered cats (4 males and 4 females, mean age 4.4 ± 0.3 years, mean body weight 4.8 ± 1.2 kg) normally fed dry diets were included in the study. The study used a cross-over design with a test diet and a control (commercial urinary) diet, each being fed for 3 weeks. The 2 diets had different formulas in terms of ingredients and analytical constituents.

The study focused on 2 main nutrients known to increase water intake in cats: protein and sodium, with the test diet having higher protein and sodium contents compared with the control diet (Table 1). Daily rations were calculated to maintain the cats' body weights. After a 1-week diet transition, the cats were housed in single metabolism cages, and daily food consumption, water intake and urine volume were measured for each cat. Wilcoxon signed rank tests were performed to compare the different parameters between the 2 groups, with a 5 % significance level.

PROTEIN AND SODIUM CONTENTS IN THE 2 DIETS

Nutrient	Control diet	Test diet
Protein (g/Mcal)	84	117
Sodium (g/Mcal)	0.92	2.88

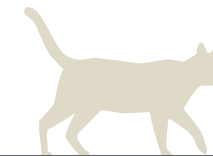
TABLE 1

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³Virbac Nutrition, Vauvert, France



RESULTS

Palatability and digestive tolerance were good with both diets and the cats' body weights remained stable. The test diet resulted in significantly higher values for all the assessed parameters, in comparison with the control diet (Table 2, Figure 1 and Figure 2).

Fig. 1: Water intake (mL/kg BW/day)

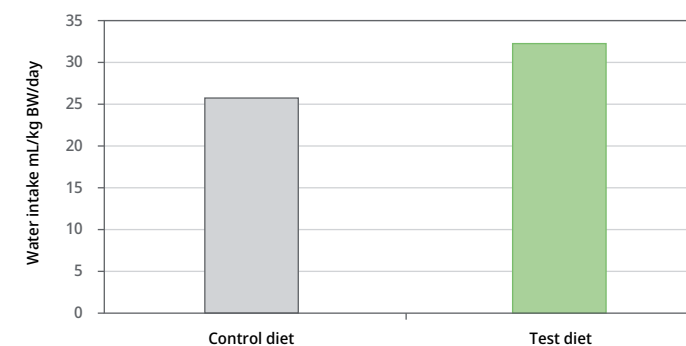
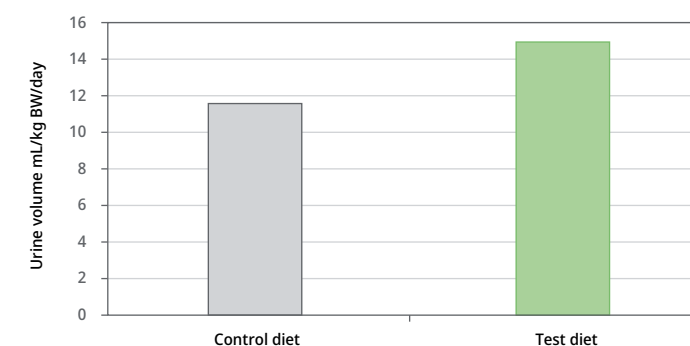


Fig. 2: Urine volume (mL/kg BW/day)



MEAN ± SD OF EACH PARAMETER IN THE 2 GROUPS AND P-VALUES

Parameter	Control diet	Test diet	P
Protein intake (g/kg BW/day)	4.07±0.05	5.22±0.49	0.0078
Sodium intake (g/kg BW/day)	0.045±0.001	0.128±0.012	0.0078
Water intake (mL/kg BW/day)	25.80±7.89	32.34±11.04	0.0325
Urine volume (mL/kg BW/day)	11.59±3.84	15.01±4.51	0.0144

TABLE 2

(a) National Research Council. Nutrient Requirements of Dogs and Cats. The National Academies Press, Washington. 2006.(b) Laflamme DP, Hannah SS. Discrepancy between use of lean body mass or nitrogen balance to determine protein requirements for adult cats. J Feline Med Surg 2013; 15(8): 691-697.

CONCLUSION

These preliminary results showed that this new diet, with high protein and high sodium contents, was effective in stimulating water intake and increasing urine volume in healthy cats. The next step will consist in testing the diet in cats with idiopathic cystitis.



WEIGHT LOSS WITH A HIGH-PROTEIN DIET ALLOWS THE RECOVERY OF OPTIMAL BODY COMPOSITION AND IMPROVES INSULIN SENSITIVITY IN OBESE CATS

INTRODUCTION

Management of feline obesity is of the utmost importance because of its high prevalence and association with numerous diseases, such as diabetes mellitus. High-protein diets are preferable for cats, as obligatory carnivores; such diets are also often proposed in weight and diabetes management.

The aim of this study was to assess effects of energy restriction on body weight, body composition and some hormonal parameters in obese cats fed a new high-protein low-carbohydrate diet.

ANIMALS, MATERIALS AND METHODS

Nine obese neutered adult cats (2.9±0.1 year old, mean BW 5.1±0.4 kg, BCS 8/9 (3 cats) or 9/9 (6 cats), mean overweight 46.0±4.0%) were included. They were fed the test diet (ME: 3190 kcal/kg DM, protein: 48% ME, fat: 29% ME, carbohydrate: 23% ME). The food allowance was adjusted every week for each cat to achieve weight loss between 1.5-2% per week.

Euglycemic hyperinsulinemic clamps (assessment of insulin sensitivity) were performed, hormones were assayed, and body composition (BC) was determined using deuterium oxide dilution, when cats were obese and then when optimal BW was recovered. For statistical analysis, linear mixed effects models were used with a significance level of 5%.

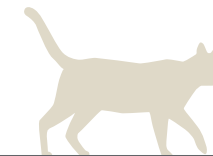
A. Andre¹, I Leriche², G Chaix³, V. Sauvinet⁴, C. Thorin¹, P. Nguyen¹

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RESULTS

During the weight loss period, the mean energy allowance was 28 kcal/kg optimal BW. The mean duration to achieve the cats' optimal BW (BW: 3.5±0.3 kg, BCS: 5/9) was 22 weeks, with a mean weight loss rate of 1.7% per week. Weight loss resulted in significant decrease of fat mass (FM: 0.9±0.1 kg vs 1.8±0.2 kg, p<0.001), and the final BC became optimal (%FFM/%FM: 74/26 vs 65/35) (Fig 1). The insulin sensitivity index was significantly higher after weight loss (0.07±0.01 vs 0.04±0.01, p<0.01) (Fig 2), and plasma leptin level was significantly lower (p<0.01).

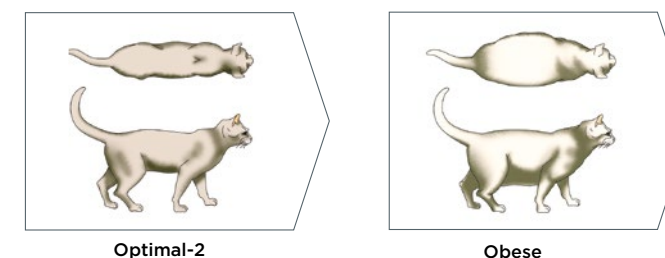


Fig. 1: Body Composition (%)

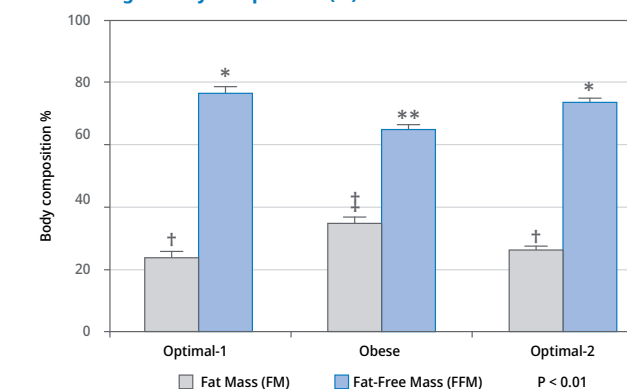
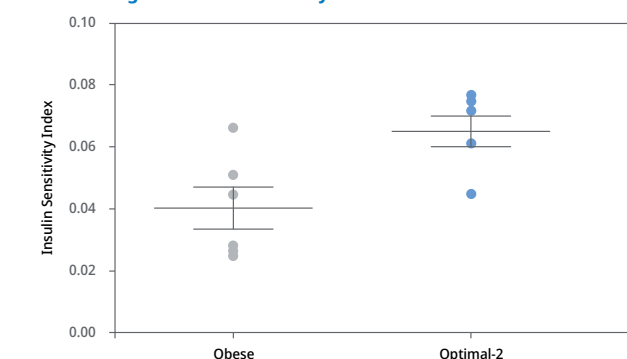


Fig. 2: Insulin Sensitivity Index



Colliard L et al. J Fel Med Surg 2009; 11: 135-140. Courcier EA et al. Vet Rec 2012; 171. Laflamme DP & Hannah SS. Intern J Appl Res Vet Med 2005; 3: 62-68. Frank G et al. Vet Ther 2001; 2(3): 238-246. des Courtis X et al. J Anim Physiol Anim Nutr 2015; 99: 474-482. Hoernig M et al. Am J Physiol Regul Integr Comp Physiol 2007; 292: R227-234. Stengel A et al. Am J Physiol Regul Integr Comp Physiol 2013; 305: R582-R591.

CONCLUSION

Results indicate that cats effectively lost BW, mainly from the fat mass, and insulin sensitivity was improved. The BC improvement despite a rapid weight loss can be related to the high protein intake. Because low insulin sensitivity is a risk factor for diabetes in cats, its improvement is considered desirable. The observed improvement in insulin sensitivity could have resulted from weight loss itself as well as from the high-protein and low-carbohydrate contents of the test diet, as it has been shown in other species. **Our results confirm that such a diet may be beneficial for the management of both obesity and diabetes mellitus in cats.**



WEIGHT MANAGEMENT IN CLIENT-OWNED CATS FED A HIGH PROTEIN – LOW CARBOHYDRATE MAINTENANCE DIET

INTRODUCTION

According to several studies worldwide, around 1 out of 2 cats are overweight or obese¹⁻². Specific weight loss diets, formulated on a low energy - high fibre concept, are frequently poorly palatable and often perceived as too burdensome and too restrictive by pet owners, who thus simply give up on these diets³. There is therefore a need for non-restrictive palatable diets which could help cats lose weight in a “softer way”.

The aim of this study was to assess the weight loss achieved with a high protein - low carbohydrate maintenance diet by overweight cats, which had previously failed with a weight loss programme.

ANIMALS, MATERIALS AND METHODS

During 8 weeks, 20 overweight adult neutered cats were given a new dry maintenance diet with a high protein and low carbohydrate content (Table 1). 0.5 to 1% weight loss per week was targeted. Individual daily rations were calculated each week, based on the energy requirement estimated at $0.8 \times 0.8 \times 60 \times \text{BW}$ (BW: body weight being recorded weekly)⁴. A General Linear Mixed Model (factors: fixed (time), random (cat) was used to test weight loss between weeks, with a 5% significance level.

NUTRITIONAL CHARACTERISTICS OF THE TESTED DIET

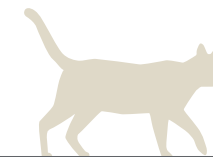
Crude protein	44.5%
Animal/vegetable protein ratio	92/08
Crude fat	13%
Crude fiber	7.5%
Nitrogen free extract	24%
Metabolisable energy	338kcal/100g

TABLE 1

I. Leriche¹, C. Navarro², S. Fournel², G. Chaix²

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²Virbac Medical and R&D Department, Carros, France



RESULTS

15 out of 20 cats completed the study. Despite the absence of rationing and the distribution of treats by most of the owners, 67% of these cats lost weight and 50% had a visibly slimmer silhouette. The effect of the diet was fast with a significant weight loss as soon as week 1, and a mean weight loss of 1.2% per week (Fig. 1 & Table 2). 80% of cats appreciated the tested diet according to their owners, and 73% of pet owners were ready to buy this diet or would recommend it to friends.

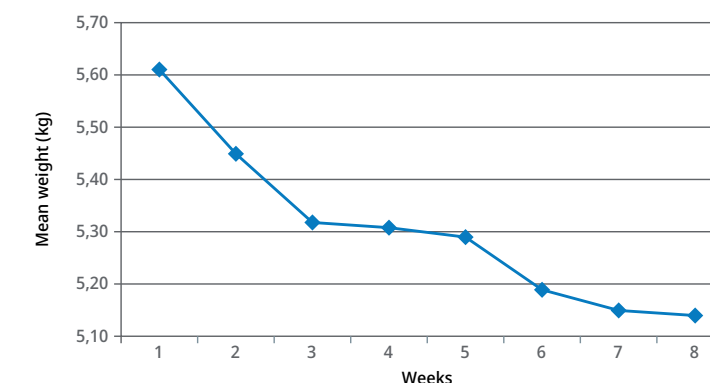
WEIGHT LOSS FOR CATS RESPONDING TO THE DIET

Visit	Weight loss (%)	p value
Week 1 - week 2	-2.95	0.0005*
Week 2 - week 3	-2.04	0.0124*
Week 3 - week 4	-0.20	0.7986
Week 4 - week 5	-0.60	0.4508
Week 5 - week 6	-1.95	0.0169*
Week 6 - week 7	-0.69	0.3870
Week 7 - week 8	-0.23	0.7764

TABLE 2

* Statistically significant weight loss

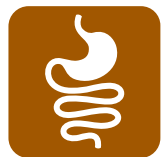
Fig. 1: Evolution of the bodyweight of cats responding to the diet



(1) APOP. National pet obesity awareness day survey 2012 ; (2) Courcier EA et al. J Fel Med Surg 2010 ; (3) Bissot T et al. J Fel Med Surg 2012 ; (4) FEDIAF Nutritional Guidelines for complete and complementary pet foods for cats and dogs 2013 ; (5) Zoran D. JAVMA 2002 ; (6) MacDonald M & Roger Q. Ann Rev Nutr 1984

CONCLUSION

This new high protein – low carbohydrate maintenance diet resulted in a gradual weight loss. **This “soft” way to lose weight and the good palatability, which may be due to the high animal protein content^{4,5}, are probably the key points that can explain the good satisfaction rate among owners regarding the tested diet.**



ASSESSMENT OF A NEW HIGH PROTEIN – LOW CARBOHYDRATE DIET IN CATS WITH CHRONIC GASTROINTESTINAL DISEASE

› INTRODUCTION

Dietary therapy plays a major role in the management of most gastrointestinal (GI) disorders. The most commonly used strategy is to feed a highly digestible food.

The objective of this study was to evaluate the efficacy of a new dry high protein - low carbohydrate (HP-LC) diet intended for the management of chronic maldigestion-malabsorption in cats.

› ANIMALS, MATERIALS AND METHODS

Forty six client-owned cats with chronic GI disease were followed up for 2 months. During the first month (M1), after a 4-day diet transition, they were fed exclusively the tested diet (Table 1). During the second month (M2), they were fed again their usual dry diet.

CHARACTERISTICS OF THE TESTED DIET	
Metabolisable Energy (ME) (kcal/100g)	419
Protein (% ME)	40
Fat (% ME)	45
Carbohydrate (% ME)	15
Soluble fibre (% DM)	1.2
Insoluble fibre (% DM)	10.3
Apparent digestibility coeff of protein (%)	86
Apparent digestibility coeff of fat (%)	91

TABLE 1

No medical management was allowed during the study. To describe the clinical improvement, 5 digestive parameters were assessed 6 times: at inclusion, then each week of M1, and finally at the end of M2 (Table 2). Wilcoxon sign rank tests were used for statistical analyses, with a significant threshold of 5%.

LIST OF THE DIGESTIVE PARAMETERS	
Freq defecation	from <1 to >5 times a day
Faecal score	from 1=dry and firm to 5=watery
Faeces odour	from very slightly odorous (very acceptable) to very odorous (unbearable)
Faeces quantity	from very small to very large
Flatulence	from never to very often (several times a day)

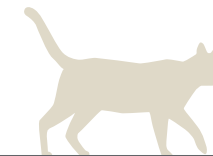
TABLE 2

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³Virbac Medical Department, Carros, France



› RESULTS

The tested diet resulted in significant improvements as attested by comparison of % cats with normal digestive parameters at the different times of the study (Table 3). The mean frequency of defecation and the mean faecal score significantly improved between inclusion and M1 ($p<0.0001$), and then degraded between the end of M1 and M2 with the usual diet ($p<0.0001$) (Figures 1 & 2).

The improvement was significant within the first week for the 2 parameters ($p<0.0001$). After 1 month fed the tested diet, 72% cats were completely cured (all parameters normal), 26% were partially improved, and only 2% were unchanged.

% CATS WITH NORMAL DIGESTIVE PARAMETERS AT DIFFERENT TIME POINTS				
Digestive parameter	Considered as normal when :	% normal cats		
		Inclusion	End M1	End M2
Freq of defecation	≤ 2 times/day	15	80	39
Faecal score	≤ 2.5	43	91	63
Faeces odour	$\leq$ slightly odorous	0	85	48
Faeces quantity	$\leq$ normal	65	100	74
Flatulence	never	41	98	87

TABLE 3

Fig. 1: Mean frequency of defecation

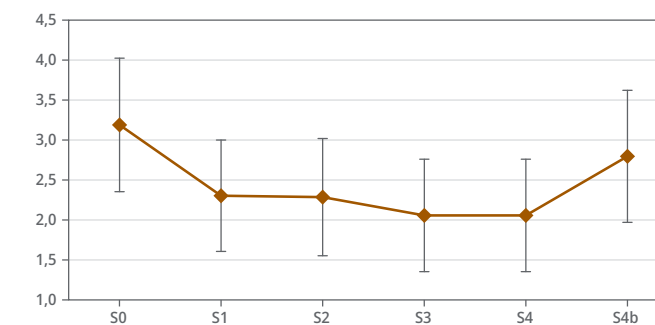
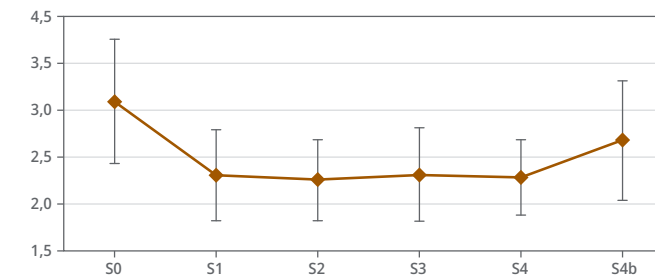


Fig. 2: Mean faecal score

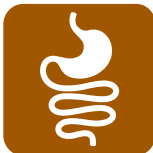


CONCLUSION

These results confirm the clinical efficacy of the new highly digestible HP-LC diet for chronic gastrointestinal disorders management and recurrence prevention in cats.



MIXED FEEDING EFFICIENCY IN CATS WITH CHRONIC GASTROINTESTINAL DISEASE - WFC



EFFECTIVENESS OF A COMBINATION OF DRY AND WET HIGH FAT HIGH PROTEIN DIETETIC FOODS IN CATS WITH CHRONIC GASTROINTESTINAL DISORDERS

INTRODUCTION

Dietary therapy plays a major role in the management of most gastrointestinal (GI) disorders. The most commonly used strategy is to feed a highly digestible food.

This non-controlled in home study assessed the efficacy of the combination of a dry commercially available diet* and a new wet diet, both intended for the management of chronic maldigestion-malabsorption in cats.

ANIMALS, MATERIALS AND METHODS

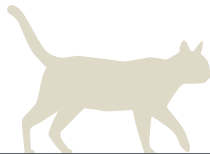
Forty two client-owned adult cats fed various maintenance diets and presenting mild chronic or recurrent GI disorders of non-specific causes, were recruited. After a 1-week diet transition (W1), cats were fed exclusively the dry and wet test diets for 3 weeks (W2-W4) (Table 1). Half of their energy requirement was covered by each diet. During W5-W6, cats were fed again their usual diets.

Six digestive parameters were assessed 5 times (Inclusion, W2, W3, W4, W6) by the cats’ owners: frequency of defecation, fecal score, smell and volume, flatulence, and halitosis. To be included in the study, cats had to show at least 3 abnormal criteria. Wilcoxon sign rank test was performed to compare each parameter at different times, with a significant threshold of 5%.

CHARACTERISTICS OF THE 2 TEST DIETS							
	ME (kcal/kg as fed)	ME from Protein (%)	ME from Fat (%)	ME from Carbohydrate (%)	TDF (g/Mcal)	Protein apparent digestibility (%)	Fat apparent digestibility (%)
DRY	4180	39	45	16	14.4	86	95
WET	1360	40	54	6	14.7	87	97

TABLE 1

I Leriche¹, M Rose¹, I Mougeot¹
¹Virbac Nutrition, Vauvert, France



RESULTS

The combination of the 2 diets resulted in clinical improvement as attested by comparison of % cats with normal digestive parameters at different times of the study (W4 compared to Inclusion, and W6 to W4) (Table 2). At W4, 22 (53%) cats were completely cured (all parameters normal), 19 (45%) were improved (some of their initial non

normal parameters became normal, some improved but still non normal, and/or some unchanged), and 1 (2%) was unchanged. Regarding the 41 cured or improved cats, improvement occurred within the 2 first weeks for 93% of them, and 68% had minimum 1 of their digestive parameters degraded at W6 when fed again their usual diets.

CATS (%) WITH NORMAL DIGESTIVE PARAMETERS AT DIFFERENT TIME POINTS (*: P<0.05)				
Digestive parameter	Considered as normal when:	Cats (%) with normal paramet		
		Inclusion	W4	W6
Freq of defecation	≤ 2 times/day	19	71*	43*
Fecal score	≤ 3	38	95*	76*
Fecal smell	≤ slightly odorous (acceptable)	12	88*	64*
Fecal volume	≤ normal	67	95*	76*
Flatulence	never	19	86*	62*
Halitosis	never	31	93*	81*

TABLE 2

*Virbac VETERINARY HPM® Digestive Support cat.
Makielski K et al, J Vet Intern Med 2018. Davenport DJ et al, Small Anim Clin Nutr 2010. Leriche I et al, ESVCN Congress Proceed 2016.



CONCLUSION

Despite some limitations (no initial medical diagnosis, assessment by owners, no control group), this preliminary study shows that switching to hyper-digestive high fat high protein therapeutic diets in first intention helps improve the digestive status of cats and prevent recurrences.



ASSESSMENT OF A NEW HIGH PROTEIN – HIGH ESSENTIAL FATTY ACID DIET IN CATS WITH CHRONIC SKIN AND COAT DISORDERS

➤ INTRODUCTION

In general practice, dermatological cases constitute around 15% of the caseload in cats and are the most common reasons for consultation¹. It is well known that nutrition plays an important role in controlling skin and coat condition, especially some nutrients such as protein and essential fatty acids (EFAs)^{2,3}.

The objective of this open study was to assess the efficiency of a new dry dietetic pet food intended for the “support of skin function in the case of dermatosis or excessive loss of hair” in cats.

➤ ANIMALS, MATERIALS AND METHODS

Animals:

- 44 client-owned adult cats with chronic skin disorders of nonspecific causes
- Average (SD) age: 4.5 (2.4) years old; body weight: 4.3 (1.3) kg; body condition score: 5.5 (1.1)
- Flea treatment before the start of the study
- No medical management allowed during the study

Diet:

- Metabolisable energy share: protein 41%, fat 38%, carbohydrate 21%
- Proteins (mainly from animal origin): 94%. Different fat sources: poultry fat, fish oil, linseed, sunflower oil, borage seed
- High and balanced level of EFAs: EPA+DHA=0.8% and LA+GLA=3.9% on a dry matter basis
- 8 weeks of feeding (test diet exclusively)

Assessments:

- 9 criteria evaluated:
 - 6 rated from 0 (severe alteration) to 4 (normal): coat shine, presence of dandruff, skin/coat odour, coat greasiness, coat softness and coat beauty
 - 3 rated from 0 (severe/frequent) to 3 (normal): licking frequency, itching frequency and hair loss
- Assessments on Day 0 (D0, baseline) and every 2 weeks (W2, W4, W6 and W8)
- Body weight (BW) and body condition score (BCS) recorded at D0 and W8
- Other assessments: kibbles quality, palatability, preference, digestive tolerance and owners’ satisfaction

Statistics

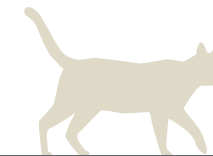
Analysis were done using repeated measures ANOVA and the adjustment procedure of Dunnett for pairwise comparison in case of significance. The time effect was considered significant at a 0.05 level.

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➤ RESULTS

EVOLUTION OF THE SCORES ATTRIBUTED TO DIFFERENT SKIN AND COAT PARAMETERS.

Parameter	D0 (n = 44)	W2 (n = 44)	W4 (n = 44)	W6 (n = 42)	W8 (n = 42)
ON A 4-POINT SCALE:					
Coat shine	1.09 ± 0.47	1.89 ± 0.65***	2.48 ± 0.73***	2.64 ± 0.82***	2.60 ± 0.80***
Dandruff	1.89 ± 1.04	2.59 ± 0.87***	2.89 ± 0.84***	3.02 ± 0.95***	2.98 ± 0.92***
Odour	2.20 ± 0.73	2.55 ± 0.82*	2.93 ± 0.82***	2.98 ± 0.87***	3.07 ± 0.71***
Greasiness	1.73 ± 0.85	2.43 ± 0.90***	2.75 ± 0.84***	3.02 ± 0.95***	3.02 ± 0.98***
Softness	1.91 ± 0.94	2.57 ± 0.73***	2.89 ± 0.92***	3.00 ± 0.91***	3.17 ± 0.82***
Coat beauty	1.75 ± 0.75	2.50 ± 0.66***	2.82 ± 0.84***	2.86 ± 0.84***	3.14 ± 0.78***
ON A 3-POINT SCALE:					
Licking frequency	1.84 ± 0.89	2.27 ± 0.85**	2.39 ± 0.75***	2.43 ± 0.77***	2.55 ± 0.67***
Itching frequency	2.00 ± 0.81	2.20 ± 0.70	2.36 ± 0.78*	2.43 ± 0.80**	2.57 ± 0.67***
Hair loss	1.77 ± 0.94	2.14 ± 0.73*	2.30 ± 0.73***	2.29 ± 0.71***	2.45 ± 0.71***

TABLE :
mean ± SD and statistics (ANOVA + adjustment procedure of Dunnett): *p<0.05; **p<0.01, ***p<0.001. Figure: mean scoresloss

• Most improved parameters at W8:

- Coat softness: 94% cats recovered normal parameters
- Coat beauty: 95% cats recovered normal parameters

• Proportion of cats improved at W8:

- Full recovery (all parameters normal): 57 %
- General improvement (all parameters improved): 17%
- Partial improvement: 21%
- No improvement: 5%

• No change in BW and BCS throughout the study

• Palatability:

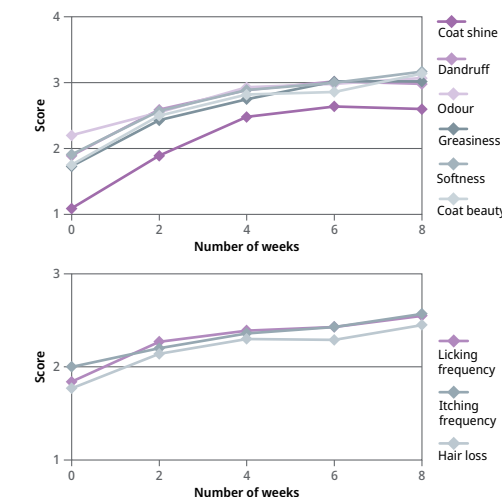
- Considered normal to very good by 88% owners.
- Test diet preferred by 57% cats compared to their usual diet

• Digestive tolerance:

- 93% cats had stools with normal consistency
- 93% cats had stools in normal or fewer quantity than usual
- 95% cats had no flatulence (5% had flatulence but less than usual)
- 97% owners reported stools odour unchanged or decreased compared with usual food

• Satisfaction:

- 91% owners satisfied at W8. Mean (SD) satisfaction score of 7.9 (2) on a 0-10 scale
- Main reasons for satisfaction: palatability, clinical efficiency



(1). Hill PB et al. Vet Rec 2006; 158(16): 533. (2). Watson TDG. J Nutr 1998; 128: 2783S. (3). Roudebush P and Schoenherr WD. Skin and hair disorders. In: Small Animal Clinical Nutrition 2010; Chapter 32: 637-643.

CONCLUSION

The test diet rapidly improved skin and coat condition of a great majority of cats. These improvements are likely linked to the composition of the diet: rich in animal protein as a source of sulphur-containing amino acids and balanced in omega-6 and omega-3 fatty acids. Palatability, digestive tolerance and owners’ satisfaction were good, which should allow a good compliance with the diet and maximize the chance of success for the management of chronic skin disorders. Clinical controlled trials with validated scales could now be carried out to assess the benefits of this diet in the management of specific skin diseases.



A LOW-CARBOHYDRATE HIGH-PROTEIN DRY DIET LOWERS POSTPRANDIAL GLUCOSE AND INSULIN CONCENTRATIONS IN OBESE DOGS

INTRODUCTION

Recent evidence suggests that diets with high protein and low carbohydrate content may be beneficial in the prevention and management of diabetes mellitus by minimizing postprandial (PP) glucose and insulin concentrations. Increased body fat mass and body weight are associated with decreased insulin sensitivity and are known risk factors for diabetes mellitus in companion animals.

The aim of this study was to compare the impact of a test low-carbohydrate high-protein (LC-HP) dry diet to that of a commercial high-carbohydrate moderate-protein (HC-MP) dry diet on PP glucose and insulin responses in obese dogs.

ANIMALS, MATERIALS AND METHODS

Eight adult obese Beagle dogs (mean BW 18.0±0.4 kg; mean optimal BW (OptBW) 13.1±0.7 kg; mean body condition score 8/9) were fed 2 different diets, LC-HP or HC-MP (Tables 1 and 2). Dogs, because of their obese status, had a reduced insulin sensitivity index which could emphasize differences in the effects of the 2 diets.

COMPOSITION OF THE TESTED DIETS	
LC-HP diet	Dehydrated pork and poultry proteins, lignocellulose, potato starch, hydrolysed pork and poultry proteins, animal fat, bean hulls, minerals, beet pulp, psyllium fibre, fructo-ilogosaccharides.
HC-MP diet	Maize, dehydrated poultry proteins, rice, cellulose, animal fat, digest, pea bran, egg, vegetable oil, flaxseed, minerals.

TABLE 1

In a cross-over design with at least 7 days between the test meals, plasma glucose and insulin concentrations were measured for 360 minutes following a single meal of 130 kcal/kg OptBW^{0.75}. Incremental areas under the curves for glucose (AUCG) and insulin (AUCI) were calculated over the 360-min period.

NUTRITIONAL CHARACTERISTICS OF THE TESTED DIETS (% DM)		
	LC-HP diet	HC-MP diet
Crude protein	40.3	24.2
Crude fat	12.3	14.6
NFE	24.8	44.9
Crude cellulose	14.8	11.7
Insoluble fibre	24.5	18.4
Soluble fibre	1.7	0.9
ME (kcal/100g DM)	333	366
In vitro glycaemic index (%)	20.1	43.9

TABLE 2

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RESULTS

There was no significant difference in pre-meal baseline values for glucose and insulin between the diets. Whereas no difference was observed in mean glucose concentrations over the 360-min period between the groups, AUCG, AUCI, and the maximal glucose and insulin increments above baselines were significantly lower with the HP-LC diet compared to the MP-HC diet (Tables 3 & 4, Figures 1 to 4).

AREAS UNDER THE CURVE FOR GLYCEMIA AND INSULINEMIA IN EACH GROUP			
	LC-HP diet	HC-MP diet	p
AUCG (g·min)/L	21 ± 10	44 ± 35	< 0.001
AUCI (μU·min)/mL	3559 ± 2484	12391 ± 6382	< 0.001

TABLE 3

MAXIMAL GLUCOSE AND INSULIN INCREMENTS ABOVE BASELINES IN EACH GROUP			
	LC-HP diet	HC-MP diet	p
Glucose(g/L)	0.23 ± 0.08	0.27 ± 0.16	< 0.001
Insulin (μU/mL)	32 ± 11	68 ± 39	< 0.01

TABLE 4

Fig. 1

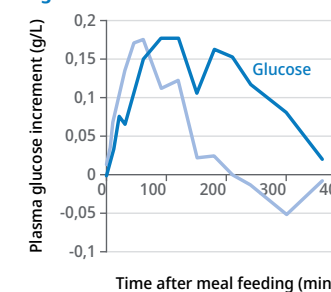


Fig. 2

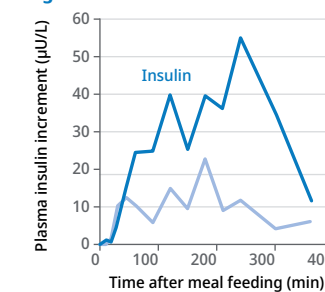


Fig. 3

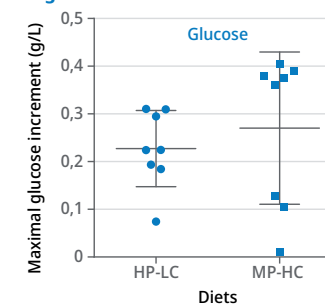
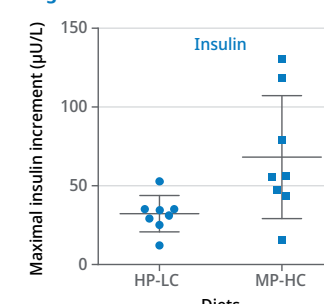


Fig. 4



Nguyen P et al. J Nutr 1998; 128: 2654S-2658S. Hewson-Hughes AK et al. Br J Nutr 2011; 106: S105-S109. Hill SR et al. N Z Vet J 2009; 57: 313-318. Hoenig M. Molecular and Cellular Endocrinology 2002; 197: 221-229. Klinkenberg H et al. J Nutr 2006; 136: 1985S-1987S. Elliott KF et al. Proceed ACVIM Forum 2006: 793. Bailhache E et al. J Anim Physiol Anim Nutr (Berl) 2003; 87:86-95.

CONCLUSION
We conclude that the LC-HP diet was associated with a lower impact on postprandial glucose and insulin responses compared to a HC-LP diet. Therefore, such a LC-HP diet may help in glycaemic control, which could be advantageous in the prevention or management of impaired glucose tolerance or diabetes mellitus in dogs.



EFFICACY AND TOLERANCE OF A HIGH-PROTEIN HIGH-FIBRE LOW-STARCH DIET FOR WEIGHT LOSS IN CLIENT-OWNED OBESE DOGS: A RANDOMIZED DOUBLE-BLIND CONTROLLED EVALUATION

INTRODUCTION

Obesity is the most common nutritional condition in dogs and its prevalence has been increasing for years.¹⁻³ The conventional strategy for obesity management implies dietary energy restriction combined with increased activity.⁴ Weight loss programs are successful in experimental conditions but not as well in practices.^{5,6} Besides involvement of both veterinary clinic team and pet family and a rigorous follow-up, palatability and satiety are nutritional key points to maintain compliance and increase success rate in weight loss programs.^{7,8}

The objective of this study was to assess the efficacy of a new dry high-protein high-fibre low-starch diet for obese dogs during a weight loss program, in comparison with a reference commercial dry diet.

ANIMALS, MATERIALS AND METHODS

Sixty client-owned overweight or obese dogs (BCS>7/9) were recruited. After a 6-day diet transition, dogs were fed exclusively 1 of the 2 commercially available dry dietetic foods, Test and Control (Table 1) during a weight loss program, in association with an individualized activity program. At the time of inclusion, the tgt BW was defined for each dog. The initial energy allowance for weight loss was 78 kcal / kg tgt BW^{0.67}. The maximum duration of the program was fixed at 9 months (M9), and the success rate was defined as the % of dogs achieving their tgt BW at M9 at the latest. Vet evaluations were scheduled once a month until tgt BW was achieved. At the end of each consultation, the clinician could adjust the daily feeding ration and the level of physical activity depending on the results in BW loss and dog's behavior. Blood sampling was performed when tgt BW was achieved or at M9, and a questionnaire was filled in by owners. The criteria to measure and compare the efficacy and tolerance of the diets were from the vets' assessments: change in BW, success rate, time to achieve tgt BW, speed of weight loss, change in blood parameters, and from the owners' questionnaires: palatability, satiety feeling, safety and general satisfaction. Sign and Mann-Whitney (Wilcoxon) tests were used to perform intra- and inter-group comparisons, with a 5% significance level.

Test diet: Virbac Veterinary HPM Weight Loss & Control Dog
Control diet: Hill's™ PRESCRIPTION DIET™ Canine Metabolic

CHARACTERISTICS OF THE 2 DIETS

Nutritional characteristics	Test	Control
Metabolisable Energy (ME) (kcal/100g as fed)	274	291
Protein (% ME)	40	29
Fat (% ME)	33	31
Carbohydrate (% ME)	27	39
Starch (g/Mcal)	51.1	65.3
Crude cellulose (g/Mcal)	54.7	46.1
Total dietary fibre (g/Mcal)	83.9	92.8

TABLE 1

I Leriche¹, C Fontaine², C Théron¹

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RESULTS

Fifty-five dogs completed the study (27 in the Test group and 28 in the Control group): mean age 6.6±2.9 years, 65% females, 75% neutered, mean BW 28.2±14 kg, mean BCS 7.9±0.7, and mean overweight 30.2±10.4%. All dogs lost weight during the study, mean weight loss was significant as early as M1 in the 2 groups (Fig.1). Sixteen dogs in each group succeeded in the achievement of their tgt BW. In Test group, 9 (56%) dogs achieved it before M9 vs 2 (13%) dogs in Control group (Fig.2). Thus, mean time to achieve tgt BW was significantly shorter in Test group than in Control group (27 vs 34 weeks, p=0.015) with a mean speed of weight loss of 0.90±0.50 %/week in Test group vs 0.66±0.25 in Control group. The shortest duration was found in Test group (9 vs 18 weeks in Control group), and so was the highest speed of weight loss (2.2 vs 1.2 %/week in Control group). In dogs classified as failure cases, the loss of their initial overweight was at least of 31.5% in Test group vs 6.5% in Control group, and in average 57.1±18.2% in Test group vs 50.4±22.5% in Control group.

Serum insulin and serotonin levels decreased in the 2 groups, significantly between M0 and M9 only in Test group (p=0.02 and 0.016 respectively). Regarding owners' questionnaires, no significant differences appeared between the 2 diets. Most of dogs appreciated the diets: "good or very good" for 96% and 88% dogs in Test and Control groups respectively. Palatability even increased throughout the study for 33%

dogs in Test group vs 19% in Control group. Digestive safety was high in both groups: same mean fecal score (2.1±0.5 on a scale from 1: too dry and hard to 5: liquid, optimal 2-3), light fecal odour for 59% and 52% dogs, no flatulence in 82% and 69% dogs in Test and Control groups respectively. Coat condition was improved in 40% dogs independently of the diets. Finally, the owners' satisfaction score was similar with the Test and Control diets: 8.9±0.9 (from 8 to 10) and 8.9±1.2 (from 5 to 10) respectively, on a scale from 0: not satisfied at all to 10: absolutely satisfied.

Fig. 1: Evolution of overweight (%)

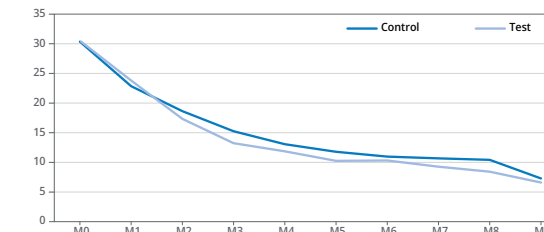
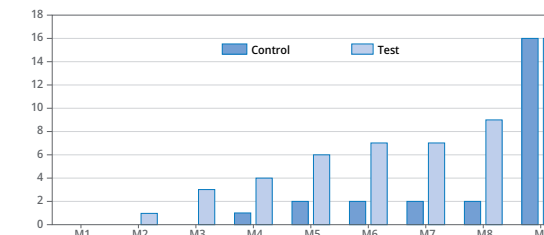


Fig. 2: Cumulative success cases (number of dogs)



(1) Colliard L et al. J Nutr 2006. (2) Courcier EA et al. J Small Anim Pract 2010. (3) Word E. Assoc Pet Obesity Prev 2019. (4) Vitger AD et al. J Am Vet Med Assoc 2016. (5) André A et al. JAPAN 2017. (6) German AJ et al. J Vet Intern Med 2015. (7) Brooks D et al. JAAHA 2014. (8) German AJ et al. Vet J 2010.

CONCLUSION

The 2 diets were well tolerated and appreciated throughout the study and demonstrated their efficacy for weight loss. Based on some criteria, especially time to achieve target body weight, the new diet was even more efficient than the reference diet.



SOFT WEIGHT LOSS
IN CLIENT-OWNED OBESE DOGS - ESVCN



WEIGHT MANAGEMENT IN CLIENT-OWNED
DOGS FED A HIGH PROTEIN – LOW
CARBOHYDRATE MAINTENANCE DIET

INTRODUCTION

Excessive bodyweight (BW) is the most common nutritional condition in pets: 33.8 to 38.9% of dogs are overweight, and 5 to 20.4% are obese.¹⁻³ Specific weight loss diets, formulated on a low energy - high fibre concept, are frequently poorly palatable and often perceived as too burdensome by pet owners.⁴ So there is a need for non-restrictive palatable diets which could assist pets to gradually lose weight.

The aim of this study was to assess the weight loss achieved with a high protein - low carb maintenance diet by overweight dogs which had previously failed with a weight loss programme.

ANIMALS, MATERIALS AND METHODS

During 8 weeks, 40 overweight adult dogs were given a new dry maintenance diet (Table 1). 0.5 to 1% weight loss per week was targeted. Individual daily rations were calculated each week, based on the energy requirement, estimated at 0.8 x 0.8 x 156 x BW^{0.667} (BW being recorded weekly).⁵ A General Linear Mixed Model (factors: fixed (time), random (dog)) was used to test weight loss between weeks, with a 5% significance level.

NUTRITIONAL CHARACTERISTICS OF THE TESTED DIET	
Crude proteins	36%
Animal/vegetable protein ratio	87/13
Crude fat	12%
Crude fiber	9.5%
Nitrogen free extract	27.5%
Metabolisable energy	320kcal/100g

TABLE 1

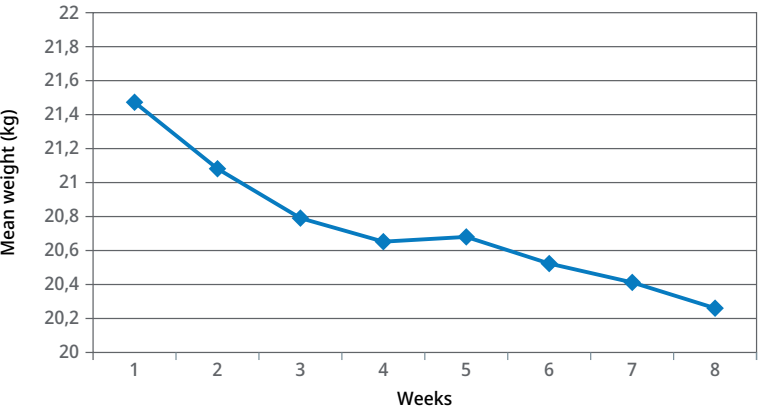
G. Chaix¹, C. Navarro¹, S. Fournel¹, I. Leriche²
¹Virbac Medical and R&D Department, Carros, France
²Virbac Nutrition, Vauvert, France



RESULTS

80% of dogs lost weight and 65% had a visibly slimmed silhouette. The mean weight loss was 0.82% per week. Rationing was not too strict as 84% of owners estimated that their dog's appetite was correctly satisfied during weight loss: 90% of dogs appreciated the tested diet, according to their owners and 80% of pet owners were ready to buy this diet, and 82% would recommend it to friends.

Fig. 1: Evolution of the bodyweight of dogs responding to the diet



WEIGHT LOSS FOR DOGS RESPONDING TO THE DIET

Visit	Weight loss (kg)	p value
Week 1 - week 2	-2.0934	<.0001*
Week 2 - week 3	-1.2050	0.0028*
Week 3 - week 4	-0.7441	0.0630
Week 4 - week 5	0.04722	0.9057
Week 5 - week 6	-0.6927	0.0833
Week 6 - week 7	-0.3660	0.3588
Week 7 - week 8	-0.7975	0.0465*

TABLE 2 * Statistically significant weight loss

(1) APOP. 2012 National pet obesity awareness day survey. <http://www.petobesityprevention.com> ; (2) Colliard C et al. J Nutr 2006; 136: 1951S-1954S ; (3) Courcier EA et al. J Small Anim Pract 2010; 51: 362-367; (4) Becker N et al. Tierärztl Prax Ausg K Kleintiere Heimtiere 2012; 40(6): 391-397 ; (5) Kronfeld DS. Purina Intern Nut Symposium, Orlando, Florida 1991: 5-11 ; (6) Gerstein Det al. J Am Diet Assoc 2004; 104: 1151-1153 ; (7) Weber M et al. J Vet Intern Med 2007; 21: 1203-1208



CONCLUSION

The high animal protein content of this food allowed to obtain a gradual loss of weight and a sufficient satiety while maintaining good palatability, the two last criteria being essential for pet owners' compliance and satisfaction^{6,7}.



ASSESSMENT OF A NEW HIGH PROTEIN – HIGH ESSENTIAL FATTY ACID DIET IN DOGS WITH CHRONIC JOINT DISORDER

INTRODUCTION

Osteoarthritis is a common painful degenerative and inflammatory disorder affecting joint and underlying bones¹. It concerns 20 % of the canine population over 1 year-old and is essentially secondary to congenital or acquired musculoskeletal disorders². The multimodal management of the disease includes the use of NSAIDs, Disease Modifying OsteoArthritis drugs, Essential Fatty Acid enriched diets and physical therapy¹.

The aim of this open study was to evaluate the effectiveness of a new dry dietetic pet food (Veterinary HPM Joint & Mobility, Virbac, France) intended for the support of joint function in dogs.

ANIMALS, MATERIALS AND METHODS

Animals:

- 48 client-owned adult and senior dogs with mobility disorders for at least 3 months recruited and analysed.
- For inclusion, at least 3 of the 7 mobility parameters had to be impaired.

Diet:

- Tested diet (Veterinary HPM Joint & Mobility, Virbac, France) for 2 months.
- Metabolisable energy (ME) 373 kcal/100g dry matter (DM); protein 35% ME, fat 38% ME, carbohydrate 27% ME; omega-3 3.3% DM, EPA 0.7% DM.
- No medical management allowed

Analysis and statistics:

- Seven mobility criteria: interaction with people, ability to rise to standing from lying down, ability to walk, lameness, ability to walk up and down stairs, ability to jump and ability to play, noted from 0 (normal) to 3 (serious alteration). Global severity score = sum of the scores of the 7 parameters.
- Assessments (questionnaires filled in by owners) on Day 0 (baseline) and every 2 weeks (W2, W4, W6, W8).
- Other parameters evaluated: body weight (BW), body condition score (BCS), kibbles palatability, digestive tolerance and owners' satisfaction were also evaluated.
- For each criteria, pairwise adjusted (Dunnett) comparisons of time points were performed in the repeated measures ANOVA. The significant threshold was set to 5%.

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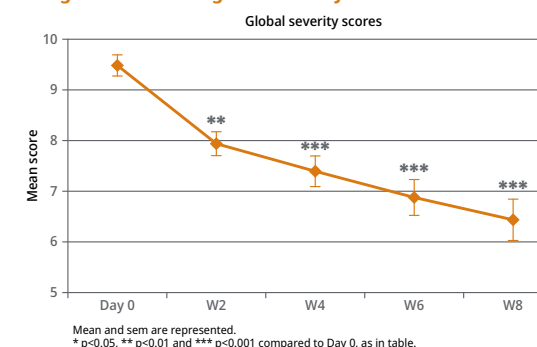


RESULTS

MEAN SCORES (± SD) OF THE SEVEN MOBILITY PARAMETERS ASSESSED AND OF THE GLOBAL SEVERITY SCORE						
	DAY 0	W2	W4	W6	W8	P (ANOVA)
Interaction with people	0,88 ± 0,57	0,60 ± 0,68*	0,54 ± 0,77**	0,52 ± 0,82**	0,40 ± 0,79***	<.0001
Ability to rise	1,44 ± 0,50	1,13 ± 0,44**	1,08 ± 0,58**	1,02 ± 0,79***	0,94 ± 0,89***	<.0001
Ability to walk	1,17 ± 0,72	0,85 ± 0,55**	0,77 ± 0,66***	0,60 ± 0,68***	0,54 ± 0,82***	<.0001
Lameness	1,46 ± 0,77	1,19 ± 0,73*	1,13 ± 0,79**	0,94 ± 0,84***	0,88 ± 0,87***	<.0001
Ability to walk up and down stairs	1,50 ± 0,78	1,37 ± 0,80	1,24 ± 0,87*	1,20 ± 0,93**	1,24 ± 1,06*	0.0060
Ability to play	1,56 ± 0,74	1,42 ± 0,68	1,33 ± 0,88*	1,27 ± 0,98**	1,25 ± 1,04***	0.0013
Ability to jump on couch, bed or car	1,68 ± 0,64	1,57 ± 0,66	1,48 ± 0,82	1,50 ± 0,93	1,36 ± 1,04**	0.0131
Global severity score	9,48 ± 3,34	7,94 ± 2,87**	7,40 ± 3,87***	6,88 ± 4,68***	6,44 ± 5,32***	<.0001

* p<0.05, ** p<0.01 and *** p<0.001 compared to value at Day 0

Fig. 1: Evolution of global severity scores over time



Other results:

- 20% overweight dogs recovered an optimal weight
- 35% owners estimated the dog's silhouette was thinner or more muscular
- Palatability: considered as normal to very good by 86 % owners
- Tolerance:
 - 92% dogs had stools with normal or dry consistency
 - 86% dogs had stools in normal or fewer quantity than with the usual diet
 - 85% dogs had no flatulence or with similar frequency as usual
- Satisfaction: 78% owners were satisfied.

5th Animal Health and Veterinary Medicine Congress, Valencia, Spain, 2016

(1) Henrotin Y et al. Veterinary Journal, 2005; 170:113-123. (2) Comblain F et al. J Vet Pharmacol Ther. 2016; 39(1):1-15

CONCLUSION

Significant improvements of mobility and quality of life were observed in dogs fed the tested diet. An improvement of the body condition score was also observed in some dogs despite no restriction diet. These results may be attributed to the diet containing high levels of proteins for muscle maintenance and omega-3 fatty acids known to reduce inflammation and pain. The good tolerance and palatability of this diet should allow an optimal compliance over a long time period. A controlled study is now required to confirm these results and an evaluation over a longer period would also be interesting.



ASSESSMENT OF A NEW HIGH PROTEIN – LOW CARBOHYDRATE DIET IN DOGS WITH CHRONIC GASTROINTESTINAL DISEASE

› INTRODUCTION

Dietary therapy plays a major role in the management of most gastrointestinal (GI) disorders. The common strategy is to feed a highly digestible food.

The objective of this study was to evaluate the efficacy of a new dry high protein - low carbohydrate (HP-LC) diet intended for the management of maldigestion-malabsorption in dogs.

› ANIMALS, MATERIALS AND METHODS

Forty-seven client-owned adult dogs with chronic GI disorders were followed up for 2 months. During the first month (M1), after a 4-day diet transition, they were fed exclusively the test diet (Table 1). During the second month (M2), they were fed again their usual dry diet.

No medical management was allowed during the study. Five digestive parameters were assessed 6 times: at inclusion, then each week of M1, and finally at the end of M2 (Table 2). Wilcoxon signed rank and Mc Nemar's tests were used for statistical analyses, with a significant threshold of 5%.

CHARACTERISTICS OF THE TEST DIET

Metabolisable Energy (ME) (kcal/100g)	411
Protein (% ME)	33
Fat (% ME)	49
Carbohydrate (% ME)	18
Soluble fibre (% DM)	1.4
Insoluble fibre (% DM)	11.8
Apparent digestibility coeff of protein (%)	85
Apparent digestibility coeff of fat (%)	97

TABLE 1

LIST OF THE DIGESTIVE PARAMETERS

Freq defecation	from <1 to >5 times a day
Faecal score	from 1=dry and firm to 5=watery
Faeces odour	from very slightly odorous (very acceptable) to very odorous (unbearable)
Faeces quantity	from very small to very large
Flatulence	from never to very often (several times a day)

TABLE 2

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¹Virbac Nutrition, Vauvert, France

²Virbac Statistical Department, Carros, France

³Virbac Medical Department, Carros, France



› RESULTS

The mean frequency of defecation and the mean faecal score significantly improved between inclusion and M1 ($p<0.0001$), and then degraded between the end of M1 and M2 with the usual diet ($p=0.007$ and $p=0.0005$ respectively) (Figures 1 & 2). Similar development was noticed for all parameters during the 2 months of the study; improvement was seen as soon as the first week of M1 for most dogs (64 to 100% dogs, depending on the parameter). The test diet resulted in clinical improvement, as attested by comparison of % dogs with normal digestive parameters at the different times of the study (Table 3). After 1 month fed the test diet, 86% dogs were improved.

DOGS (%) WITH NORMAL PARAMETERS AT DIFFERENT TIME POINTS

Digestive parameter	Considered as normal when:	Dogs (%) with normal parameter		
		Inclusion	End M1	End M2
Freq of defecation	≤ 2 times/day	68	93**	73*
Faecal score	≤ 3	75	95*	80
Faeces odour	$\leq$ slightly odorous	2	77***	52**
Faeces quantity	$\leq$ normal	59	91**	75
Flatulence	never	2	46***	41

TABLE 3

(* $p<0.05$, ** $p<0.01$, *** $p<0.0001$)

Fig. 1: Mean frequency of defecation

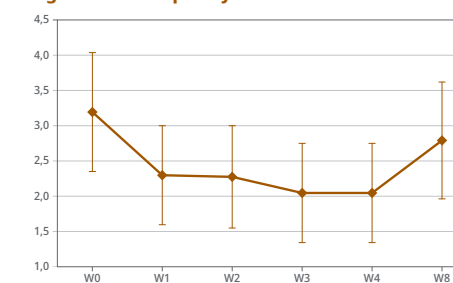
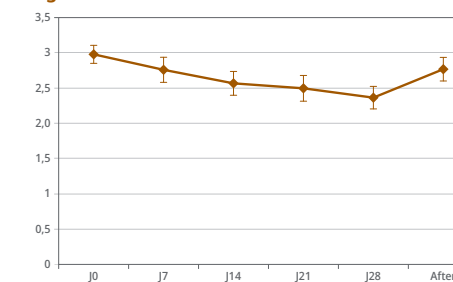


Fig. 2: Mean faecal score

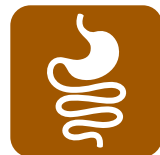


Guilford WG. J Nutr 1994 ; 124 : 2663S-2669S. Davenport DJ et al. Small Anim Clin Nutr 2010 ; 106S-1074. Davenport DJ et al. Small Anim Clin Nutr 2010 ; 113S-1141.



CONCLUSION

This preliminary study shows the benefit of the new highly digestible HP-LC diet for chronic gastrointestinal disorders management and recurrence prevention in dogs.



EFFECTIVENESS OF A COMBINATION OF DRY AND WET HIGH FAT HIGH PROTEIN DIETETIC FOODS IN DOGS WITH CHRONIC GASTROINTESTINAL DISORDERS

› INTRODUCTION

Dietary therapy plays a major role in the management of most gastrointestinal (GI) disorders. The most commonly used strategy consists in feeding a highly digestible food.

This non-controlled in home study assessed the efficacy of the combination of a dry commercially available therapeutic GI diet* and a new wet therapeutic diet, on fecal parameters of dogs with GI disorders.

› ANIMALS, MATERIALS AND METHODS

Forty two client-owned adult dogs (mean age: 6.4 +/- 3.2 years, mean BW: 19.2 +/- 10.8 kg) fed various maintenance diets and presenting mild chronic or recurrent GI disorders of non-specific causes, were recruited. After a 1-week diet transition (W1), dogs were fed exclusively the dry and wet test diets (Table 1) for 3 weeks (W2-W4). Half of their energy requirement was covered by each diet. During W5-W6, dogs were fed again their usual diets.

Five digestive parameters were assessed 5 times (Inclusion, W2, W3, W4, W6) by the dog owners: frequency of defecation, fecal score, smell and volume, and flatulence. To be included in the study, dogs had to show at least 3 criteria considered as non “normal” (Table 2). Wilcoxon signed rank test was performed to compare each parameter at different times, with a significant threshold of 5%.

CHARACTERISTICS OF THE 2 TEST DIETS

	Protein (%DM)	Fat (%DM)	NFE (%DM)	TDF (%DM)	ME measured in vivo (kcal/100g as fed)	Protein in vivo apparent digestibility (%)	Fat in vivo apparent digestibility (%)
DRY	37.4	24.2	23.6	11.5	411	85	97
WET	46.4	33.9	7.1	7.9	151	88	97

TABLE 1

I Leriche¹, M Rose¹, I Mougeot¹
¹Virbac Nutrition, Vauvert, France



› RESULTS

The combination of the 2 diets resulted in clinical improvement as attested by comparison of % dogs with “normal” digestive parameters at different times of the study (W4 compared to Inclusion, and W6 to W4) (Table 2). At W4, 17 (41%) dogs had all parameters within normal limits, 24 (57%) were improved (some of their initial non

normal parameters became normal, some improved but still non normal, and/or some unchanged), and 1 (2%) dog had 1 parameter (frequency of defecation) degraded. At W6, when fed again their usual diets, 69% dogs had minimum 1 of their digestive parameters degraded again.

CATS (%) WITH NORMAL DIGESTIVE PARAMETERS AT DIFFERENT TIME POINTS (*: P<0.05)

Digestive parameter	Considered as normal when:	Dogs (%) with normal paramet		
		Inclusion	W4	W6
Freq of defecation	≤ 2 times/day	17	60*	55
Fecal score (1: dry to 5: liquid)	≤ 3	62	95*	88
Fecal smell	≤ slightly odorous (acceptable)	2	83*	62*
Fecal volume	≤ medium	67	88*	69*
Flatulence	never	7	76*	45*

TABLE 2

*Virbac VETERINARY HPM® Digestive Support dog.
References: Makielski K et al, J Vet Intern Med 2018. Davenport DJ et al, Small Anim Clin Nutr 2010. Leriche I et al, ESCVN Congress Proceed 2016.



CONCLUSION

Despite some limitations (no initial medical diagnosis, assessment by owners, no control group), this preliminary study shows that switching to hyper-digestive high fat high protein therapeutic diets in first intention helps improve the digestive status of dogs and prevent recurrences.



ASSESSMENT OF A NEW HIGH PROTEIN – HIGH ESSENTIAL FATTY ACID DIET IN DOGS WITH CHRONIC SKIN AND COAT DISORDERS

› INTRODUCTION

Management of dermatological conditions is the main primary reason for consultation after vaccination¹. It is well known that nutrition plays an important role in controlling skin and coat condition, especially some nutrients such as protein and essential fatty acids (EFA)^{2,3}. In its recent updated guidelines, the International Committee on Allergic Diseases of Animals (ICADA) advises an increase of EFA intake to help in the management of dermatological disorders⁴.

The aim of this open study was to evaluate the effectiveness of a new dry dietetic pet food intended for the “support of skin function in the case of dermatosis or excessive loss of hair” in dogs.

› ANIMALS, MATERIALS AND METHODS

Animals and treatments:

- 45 client-owned adult dogs with chronic skin and/or coat disorders of nonspecific cause (for at least 3 weeks)
- Average (SD) age: 5.5 (3) years old; body weight: 23 (16) kg; body condition score: 5.2 (0.7)
- Flea treatment before the start of the study
- No medical management allowed during the study

Diet:

- Metabolisable energy share: protein 35%, fat 41%, carbohydrate 24%.
- Proteins: 88% animal origin; fat sources: poultry fat, fish oil, linseed, sunflower oil, borage seed
- High and balanced level of EFAs: EPA+DHA = 0.4% and LA+GLA = 3.6% on a dry matter basis
- 8 weeks of feeding (test diet exclusively)

Assessments:

- 9 criteria evaluated:
 - 6 rated from 0 (severe alteration) to 4 (normal): coat shine, presence of dandruff, skin/coat odour, coat greasiness, coat softness and coat beauty
 - 3 rated from 0 (severe/frequent) to 3 (normal): licking frequency, itching frequency and hair loss
- Assessments on Day 0 (baseline) and every 2 weeks (W2, W4, W6 and W8)
- Body weight (BW) and body condition score (BCS) recorded at Day 0 and W8
- Other assessments: kibbles quality, palatability, preference, digestive tolerance and owners’ satisfaction

Statistics

Analysis were done using repeated measures ANOVA and the adjustment procedure of Dunnett for pairwise comparison in case of significance. The time effect was considered significant at a 0.05 level.

(1) Hill PB et al. Vet Rec 2006; 158(16): 533.
(2) Roudebush P et al. In: Small Animal Clinical Nutrition 2010; Chapter 32: 637-643.
(3) Rees CA et al. Vet Dermatol 2001; 12(2): 111-4. Olivry T et al. BMC Vet Res 2015; 11: 210

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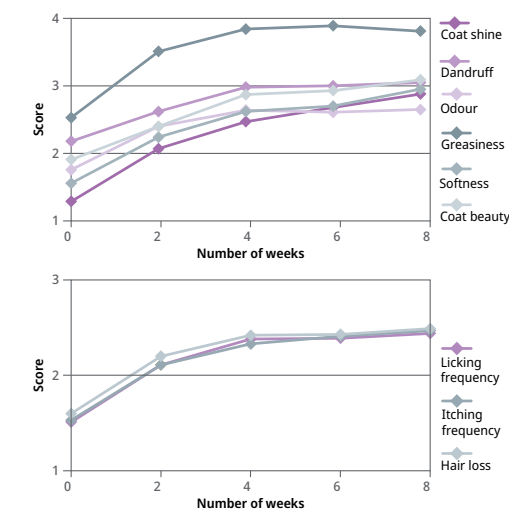


› RESULTS

EVOLUTION OF THE SCORES ATTRIBUTED TO DIFFERENT SKIN AND COAT PARAMETERS

Parameter	DAY 0 (N = 45)	W2 (N = 45)	W4 (N = 45)	W6 (N = 44)	W8 (N = 43)
ON A 4-POINT SCALE:					
Coat shine	1.29 ± 0.66	2.07 ± 0.86**	2.47 ± 0.76**	2.68 ± 0.74**	2.88 ± 0.59**
Dandruff	2.18 ± 1.05	2.62 ± 1.01*	2.98 ± 0.81**	3.00 ± 0.81**	3.05 ± 0.79**
Odour	1.76 ± 0.96	2.40 ± 0.91**	2.64 ± 0.83**	2.61 ± 0.92**	2.65 ± 0.78**
Greasiness	2.53 ± 1.41	3.51 ± 1.01**	3.84 ± 0.82**	3.89 ± 1.02**	3.81 ± 0.76**
Softness	1.56 ± 0.92	2.24 ± 0.77**	2.62 ± 0.72**	2.70 ± 0.82**	2.95 ± 0.75**
Coat beauty	1.91 ± 0.73	2.40 ± 0.96*	2.87 ± 0.69**	2.93 ± 0.73**	3.09 ± 0.65**
ON A 3-POINT SCALE:					
Licking frequency	1.51 ± 0.97	2.11 ± 0.88*	2.38 ± 0.72**	2.39 ± 0.81**	2.44 ± 0.77**
Itching frequency	1.53 ± 0.92	2.11 ± 0.83**	2.33 ± 0.74**	2.41 ± 0.82**	2.47 ± 0.77**
Hair loss	1.60 ± 0.96	2.20 ± 0.89**	2.42 ± 0.81**	2.43 ± 0.73**	2.49 ± 0.74**

TABLE: mean ± SD and statistics (ANOVA + adjustment procedure of Dunnett): *p<0.01; **p<0.001. Figure: mean SCORES.



• Most improved parameters at W8:

- Coat shine: 83% dogs recovered normal parameters
- Coat beauty: 88% dogs recovered normal parameters

• Proportion of dogs improved at W8:

- Full recovery (all parameters normal): 21 %
- General improvement (all parameters improved): 51%
- Partial improvement: 21%
- No improvement: 7%

• No change in BCS and BW throughout the study

• Palatability:

- Considered normal to very good by 96% owners.
- Tested diet preferred by 61% dogs compared to usual diet

• Digestive tolerance:

- 98% dogs had stools with normal consistency
- 93% dogs had stools in normal or fewer quantity than usual
- 86% dogs had no flatulence or less than usual

• Satisfaction:

- 91% owners satisfied at W8. Mean (SD) satisfaction score of 8.1 (2) on a 0-10 scale
- Main reasons for satisfaction: clinical efficiency, palatability and kibbles characteristics

CONCLUSION

The test diet rapidly improved skin and coat condition of a great majority of dogs. These improvements are likely linked to the composition of the diet: rich in animal protein as a source of sulphur-containing amino acids and balanced in omega-6 and omega-3 fatty acids. Palatability, digestive tolerance and owners’ satisfaction were good, which should allow a good compliance with the diet and maximize the chance of success for the management of chronic skin disorders. Clinical controlled trials with validated scales could now be carried out to assess the benefits of this diet in the management of specific skin diseases, like atopic dermatitis.



COMPARATIVE ASSESSMENT OF THE PALATABILITY OF A NEW RENAL DIET IN FUSSY CANINE EATERS

> INTRODUCTION

Feeding an appropriate diet is the cornerstone of the management of dogs suffering from chronic kidney disease (CKD). Dysorexia is frequent in these patients¹. That is why “renal diets” need to be highly palatable. Most palatability studies are conducted in research centres, in healthy animals trained for palatability testing².

The aim of this study was to compare the palatability of a new dry renal diet (diet A, figure 1) to that of two commercial renal diets (diets B and C) in fussy client-owned dogs, to mimic the CKD patients’ difficult appetite.

> ANIMALS, MATERIALS AND METHODS

52 adult [5-14 years old] dogs described as “fussy eaters” by their owners were followed up for six weeks. During the first 4 weeks, after a 4-day diet transition, they were fed exclusively diet A, as described on figure 2. Then the dogs received either diet B (n=27) or diet C (n=25) for 14 other days, after a new 4-day diet transition. For each diet, palatability was evaluated by the owners at the end of each 4-day diet transition (D4) and at D7 and D14, and additionally at D28 for diet A. Fisher’s exact test was performed for the statistical analysis.

DIET A	VETERINARY HPM® Kidney Support dog from VIRBAC
DIET B	Royal Canin® Veterinary Exclusive Canine Renal
DIET C	Hill's Prescription Diet™ k/d™ Canine Kidney Care

Fig. 1: Tested Diets

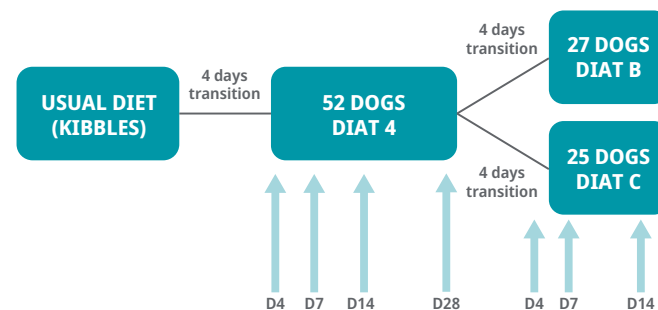


Fig. 2: Study design

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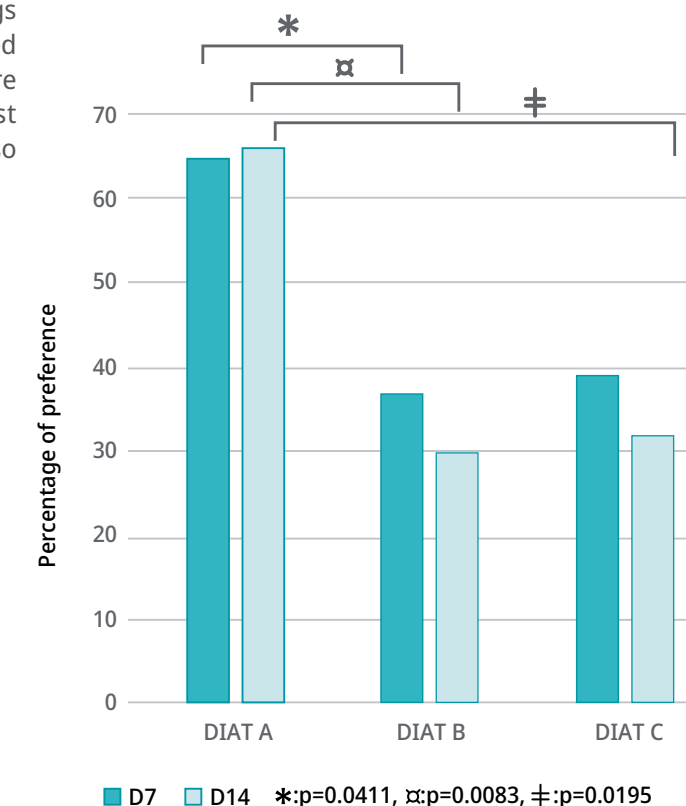
²Virbac Nutrition, Vauvert, France



> RESULTS

At D4, no statistical differences were observed between the three diets. Compared to their usual diet, more dogs preferred the new diet when testing diet A as opposed to diet B at D7 and D14, and to diet C at D14 (see figure 3). According to the owners, diet A was the most satisfactory compared to diet B at D7 and D14 and also to diet C at D14.

Fig. 3: Preference for the tested compared to the usual diet at D7 and D14



(1) Dethioux F. 800 000, 799 999, 799 998... the lethal countdown. Vets today 2013; 17. (2) Aldrich GC, Koppel K. Pet food palatability evaluation: a review of standard assay techniques and interpretation of results with primary focus on limitations. Animals 2015; 5:43-55



CONCLUSION

These results demonstrated the good palatability of this new diet, even in fussy dogs. This may explain the high owner satisfaction rate.



COMPARISON OF THE EFFECTS OF FOUR DIETS
ON URINARY PARAMETERS IN DOGS AND IN
VITRO STRUVITE DISSOLUTION

INTRODUCTION

Urolithiasis is a common disorder of the urinary tract in dogs¹. The predominant canine uroliths are calcium oxalate and magnesium ammonium phosphate (struvite). Dietary dissolution is safe and effective for eradication of sterile struvite uroliths in dogs. Richness in moisture and/or sodium and/or protein, in order to increase water intake and thus increase diuresis, urinary flow and frequency of micturition, may vary between commercial diets. Beyond urinary pH, recent findings showed that it is possible to formulate a diet to reduce either one or both struvite and Ca oxalate risk, taking into account the struvite and Ca oxalate relative supersaturation (RSS) in the urine^{2,3}.

The objective of this study was to assess the urinary parameters and struvite stone solubility in the urine of dogs fed 2 new dry high-protein diets, in comparison with 2 commercial dry diets.

ANIMALS, MATERIALS AND METHODS

Twelve healthy adult beagle dogs normally fed dry diets were included in this study using a cross-over design with 4 dry diets*, each being fed for 14 days. Diets A and B were 2 new high-protein diets: A was a maintenance diet for adult dogs, B was a dietetic food dedicated to dissolution and prevention of struvites (Table 1). Diets C and D were 2 commercial urology diets used as positive references. Dogs were fed to maintain their body weight. Each period was divided into an adaptation phase of 12 days, and a collection phase of 2 days were dogs were housed in individual metabolism cages.

Water intake, urine volume and urinary pH were documented. Eleven urine electrolytes were analyzed to calculate struvite RSS and oxalate RSS indexes. The in vitro dissolution trial was performed with collected urine: 0.5 g of struvite stone (magnesium ammonium phosphate hexahydrate 98%; VWR, Darmstadt, Germany) was mixed with 10 mL of the filtered urine. Per dog and diet, 2 of these samples were prepared and incubated in a 38°C warm and rotating (80/min) water bath for 120 hours. After the incubation, samples were filtered to calculate the residues of the struvite stone.

NUTRITIONAL CHARACTERISTICS OF THE 4 TEST DIETS*				
	Diet A	Diet B	Diet C	Diet D
Metabolisable Energy (ME) (kcal/100g)	369	374	388	396
Protein (% ME)	33	32	16	18
Fat (% ME)	39	40	37	33
Carbohydrate (% ME)	28	28	47	49
Sodium (% Dry Matter (DM))	0.66	0.99	1.33	0.23
Crude Fiber (% DM)	5.5	5.5	2.4	2.2

TABLE 1

*A: Virbac VETERINARY HPM Adult dog L&M, B: Virbac VETERINARY HPM Urology dog, C: Royal Canin Veterinary Exclusive Canine Urinary S/O, D: Hill's Prescription Diet Canine c/d Multicare

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RESULTS

There was no difference in mean water intake between the diets (Table 2). The mean urine volume of dogs fed diet C was higher compared to the 3 other diets. The urine production was also higher in dogs fed diet B compared to diet D. The mean urinary pH varied from 5.52±0.4 to 6.58±0.6, it was significantly lower with diet C. The struvite RSS index was <1 (undersaturation) with all diets. The oxalate RSS index was within the range of metastable supersaturation (1<RSS<12) with all diets. The lowest values were calculated for diet C and the highest values for diet D. During the in vitro dissolution trial, the solubility of struvite stone was higher in dogs fed diet C compared to the other diets.

MEAN (±SD) WATER INTAKE, URINE VOLUME, URINARY PH, STRUVITE RSS, OXALATE RSS, AND IN VITRO STRUVITE SOLUBILITY AFTER 120 HOURS, OF DOGS FED THE 4 TEST DIETS				
	Diet A	Diet B	Diet C	Diet D
Water intake (mL/kg BW)	50.2±20	51.4±21	49.8±13	48.7±20
Urine volume (mL/kg BW)	21.7±8.9bc	26.7±9.3b	38.7±11a	18.0±11c
Urinary pH	6.58±0.6a	6.36±0.5a	5.52±0.4b	6.44±0.8a
Struvite RSS	0.82±0.8a	0.16±0.1b	0.01±0.01c	0.81±1.0ab
Oxalate RSS	5.70±2.7b	6.41±2.9ab	5.28±2.0b	9.60±4.0a
Struvite solubility (%)	40.4±1.9b	41.3±1.2b	43.9±0.8a	40.7±2.0b

TABLE 2 A, B, C : Different superscripts within a row indicate significant difference (p<0.05)

(1) Osborne CA et al. Small Anim Clin Nutr 2010;813-923. (2) Robertson WG et al. J Nutr 2002;132:1637S-1641S. 3) Sagols E et al. WSAVA Congress, Thailand, 15-18 May 2015.

CONCLUSION

Considering the results of the in vivo and in vitro trials, the new dietetic high-protein diet (B) was as efficient as the commercial urology diets C and D, and therefore could be recommended for both dissolution of struvite uroliths and prevention of calcium oxalate uroliths formation in dogs. The study also showed that the maintenance high-protein diet (A) provided a high urinary safety. The next step will consist in testing diet B in dogs with naturally occurring struvite urolithiasis.

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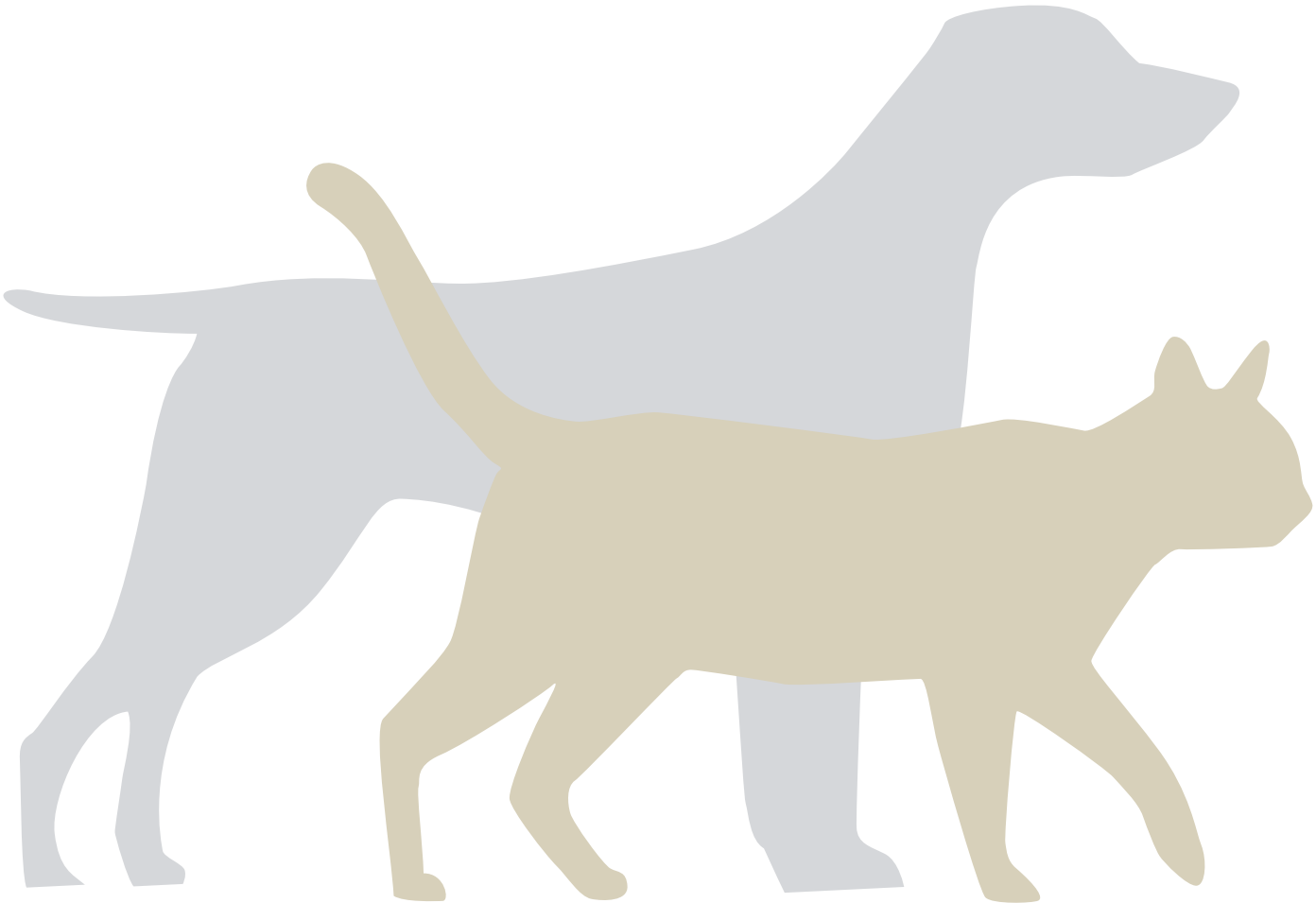
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