VETERINARY HPM®

ADVANCING HEALTH THROUGH NUTRITION

PRODUCT BOOK

NEW PHYSIOLOGICAL RANGE

GLOBAL PREVENTIVE PROFILE

KEY 5 HEALTH BENEFITS

Shaping the future of animal health

Virbac

VETERINARY HPM®

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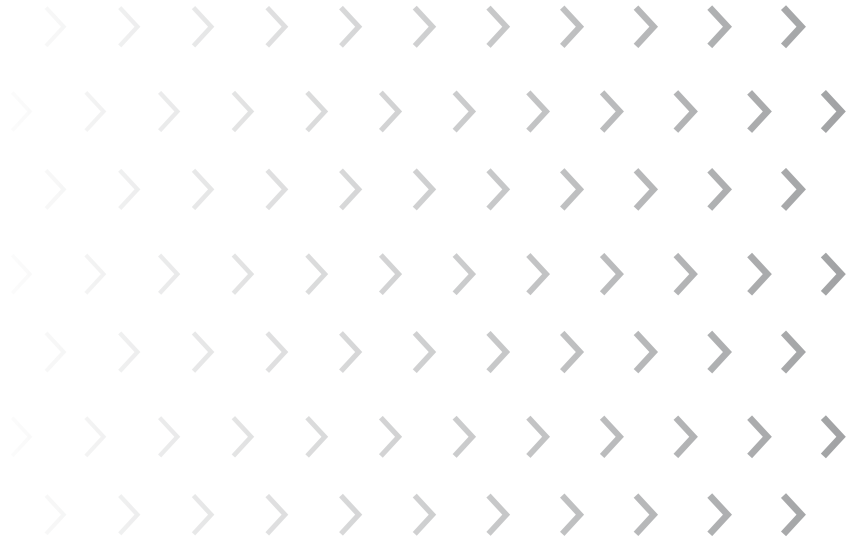


PHYSIOLOGICAL RANGE PHILOSOPHY

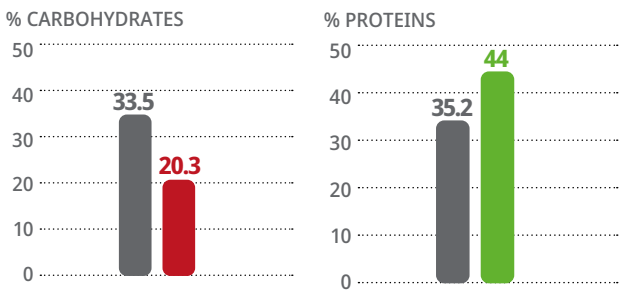
A DIFFERENT NUTRITIONAL BALANCE

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

COMPARISON OF DRY adult CAT FOOD*

CARBOHYDRATES **-40%**

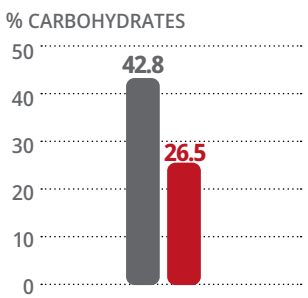
PROTEINS **+25%**

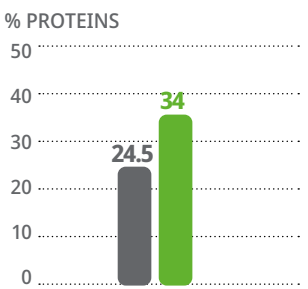


COMPARISON OF DRY adult DOG FOOD*

CARBOHYDRATES **-38%**

PROTEINS **+39%**





MARKET AVERAGE

AVERAGE OF VETERINARY HPM ADULT PRODUCTS

*Average protein and carbohydrate amounts in adult dog and cat dry food available in the European veterinary market. Internal analysis performed in France, 2024. Comparative data collected via official product websites

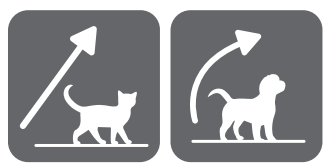
GLOBAL PREVENTIVE PROFILE

Each VETERINARY® HPM product has a unique "Global Preventive Profile," i.e., the top 5 health benefits adapted to the pet's needs. This profile takes into account reproductive status, sensitivities, age, and activity level to best protect the health of each animal.

UP TO 14 HEALTH BENEFITS FOUND IN THE RANGE

ORAL & DENTAL HEALTH

HARMONIOUS GROWTH



OPTIMAL WEIGHT

MOBILITY SUPPORT

RENAL HEALTH

SKIN & COAT SUPPORT

OPTIMAL MUSCLE MASS

URINARY HEALTH

IMMUNE SUPPORT

HIGH DIGESTIVE TOLERANCE

IMPOVED STOOLS

HYDRATATION SUPPORT

NEW

HAIRBALL CONTROL

BRAIN DEVELOPMENT

PHYSIOLOGICAL RANGE OFFER

CAT

STERILISATION

1 YEAR

10 YEARS

KITTEN > JUNIOR

KITTEN (ENTIRE TILL 1 YEAR OLD)

> ADULT > SENIOR

- Prevents overweight, oral, hairball and urinary issues in both neutered and entire cats.
- Adult Neutered with Salmon chunks & gravy* provides hydration support with high palatability.

SMALL & TOY DOG

10 MONTHS

10 YEARS (Small)
12 YEARS (Toy)

PUPPY > ADULT > SENIOR

- Addresses specific issues (ex: oral & dental problems) of small (6-10 kg) and toy (till 5 kg) dog breeds.

LARGE & MEDIUM DOG

6 MONTHS (Medium)
7 MONTHS (Large)

1 YEARS (Medium)
1,5 YEAR (Large)

8 YEARS (Medium)
6 YEARS (Large)

PUPPY > JUNIOR > ADULT > SENIOR

› Supports optimal weight, healthy joints and mobility for medium (M, 11-24kg) & large (L, 25kg and more) dog breeds. It includes specific Junior products according to breed size, as well as a product dedicated to dogs with digestive sentivity.*

NEUTERED DOG

SMALL & TOY

10 YEARS (Small)
12 YEARS (Toy)

ADULT > SENIOR

LARGE & MEDIUM

8 YEARS (Medium)
6 YEARS (Large)

ADULT > SENIOR

› Promotes satiety and prevents overweight in adult and senior small & toy dogs, and in large & medium sized breeds. It includes a product dedicated to dogs with digestive sensitivity.*


VETERINARY
HPM®

FELINE RANGE

VETERINARY HPM®

FELINE PHYSIOLOGICAL RANGE

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CAT

GLOBAL PREVENTIVE PROFILE

KEY INFORMATION

	KITTEN PRE NEUTERED	JUNIOR NEUTERED	ADULT NEUTERED	ADULT NEUTERED & ENTIRE	WET ADULT NEUTERED WITH SALMON	SENIOR NEUTERED
FELINE PRODUCT VISUAL						
Bag Format	**50 g - 400 g 1.5 kg - 3 kg**	**400 g - 1.5 kg 3 kg**	**50 g - 400 g - 1.5 kg 3 kg - 7 kg - 12 kg**	**1.5 kg - 3 kg 7 kg - 12 kg**	**12x85g chunks in gravy**	**400 g - 1.5 kg 3 kg - 7 kg**
Protein (% as fed)	45	44	44	44	11.5	38
Protein to calorie ratio (g/Mcal)	109	115	121	115	129	101
Carbohydrate (NFE) (% as fed)	17	20	20.5	20	2.4	25.5
Metabolisable Energy (kcal/100g)	412	384	364	384	89	377
Indications	• From weaning up to 12 months old or before sterilisation • Pregnant and lactating cats	Sterilised young cats from sterilisation. up to 12 months old	Sterilised cats from 1 to 10 years old	Sterilised and entire cats from 1 to 10 years old	Sterilised cats from 1 to 10 years old	Sterilised cats for over 10 years old
GLOBAL PREVENTIVE PROFILE Top 5 Health Benefits	**Harmonious growth**	**Harmonious growth**	**Weight Control**	**Optimal Weight**	**Weight Control**	**Vitality & Mobility Support**
	Immune Support	Controlled weight gain	Urinary Health	Urinary Health	Urinary Health	Renal health
	High Digestive Tolerance	Urinary Health	Skin & Coat Support	Skin & Coat Support	Hydration Support	Urinary Health
	Skin & Coat Support	Skin & Coat Support	Hairball control	Hairball control	High Digestive Tolerance	Hairball control
	Brain development	High Digestive Tolerance	Oral & Dental Health	Oral & Dental Health	Skin & Coat Support	Oral & Dental Health

KITTEN PRE NEUTERED

Approx. 7.5 x 4.5 mm

INDICATION

Complete diet for **kittens:**

- From weaning up to **12 months**. or before sterilisation.
- **Pregnant cats.**
- **Lactating cats.**

AVAILABLE FORMATS

50 g, 400 g, 1.5 kg, 3 kg

This diet meets the nutritional requirements for healthy growth before neutering. It is formulated with high energy density, high protein content and a balanced mineral intake.

GLOBAL PREVENTIVE PROFILE

Harmonious growth

The high energy density and degree of digestibility provide a concentrated diet covering the kitten's intense and rapid growth requirements. The high protein content, with balanced calcium and phosphorus levels, ensures healthy growth.

Immune Support

Beta-glucans, extracted from brewer's yeast cell walls, help to the development of the kitten's own immune system, to improve vaccine response and disease resistance.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotic) support the growth of the beneficial digestive flora and contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance between omega-6 and omega-3 fatty acids contribute to the development of the epidermal barrier function and to coat production.

Brain development

DHA from fish oil contributes to the healthy development of the kitten's brain and vision.

Additional Health Benefits

- Urinary Health
- Oral & Dental Health

CARNIVORE NUTRITION

	% AS FED
HIGH PROTEIN	45%
OF ANIMAL ORIGIN	92%
LOW CARBOHYDRATE	17%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Poultry Fats, Hydrolysed pork and poultry proteins, Peas, Minerals, Lignocellulose, Dried (sugar) beet pulp, Inactivated brewer's yeast, Linseed, Fish oil, Seaweed meal *(Ascophyllum nodosum)*, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	5.5
Protein	45
Animal to vegetal protein ratio (%)	92/08
Fat	20
Minerals	8.5
Crude cellulose	4
Total dietary fibre	7.5
NFE*	17
Starch	13
Calcium	1.3
Phosphorus	1.1
Ca/P ratio	1.2
Sodium	0.7
Omega-6	3.5
Omega-3	1
EPA+DHA	0.3

SPECIFIC INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
beta-glucans (mg/kg)	500
Ascophyllum nodosum (%)	0.6
L-carnitine (mg/kg)	540

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	412
PCR (g/Mcal)***	109
Energy from protein (%)	41
Energy from fat (%)	44
Energy from NFE*(%)	15

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Age (month)		
	3-5	6-8	9-12
0.5	15		
1	30	25	
1.5	45	35	25
2	60	45	35
3	85	70	50
4	115	95	70
5		115	85
6			105
7			120
8			140
9			155
10			175

These amounts are indicative and may vary depending on the breed and activity level of the kitten. Before 3 months old. give the food on demand.

* Nitrogen Free Extract
** metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

JUNIOR NEUTERED

Approx. 10.5 x 5.5 mm

INDICATION

Complete diet for **young cats**:

- **Sterilised** from **sterilisation up to 12 months old.**

AVAILABLE FORMATS

400 g, 1.5 kg, 3 kg

This diet meets the nutritional requirements for healthy growth after neutering. It is formulated with moderate energy density, high protein content and increased fibre content.

GLOBAL PREVENTIVE PROFILE

Harmonious growth

The high protein content contributes to muscle development that intensifies at the end of growth.

Controlled weight gain

The moderate energy density. with adapted feeding rations, limits the risk of excessive weight gain that could result from neutering during growth. The L-carnitine supplement limits fat tissue buildup.

Urinary Health

The richness in animal proteins stimulates water intake, increases urine volume and helps stabilise urinary pH, for a healthy urinary system.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance between omega-6 and omega-3 fatty acids contribute to the development of the epidermal barrier function and to coat production.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotic) support the growth of the beneficial digestive flora and contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency.

Additional Health Benefits

- Oral & Dental Health

CARNIVORE NUTRITION

% AS FED

HIGH PROTEIN	44%
OF ANIMAL ORIGIN	89%
LOW CARBOHYDRATE	20%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Hydrolysed pork and poultry proteins, Peas, Poultry Fats, Lignocellulose, Dehydrated salmon protein, Minerals, Linseed, Dried (sugar) beet pulp, Inactivated brewer's yeast, Fish oil, Seaweed meal *(Ascophyllum nodosum)*, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	5.5
Protein	44
Animal to vegetal protein ratio (%)	89/11
Fat	16
Minerals	8.5
Crude cellulose	6
Total dietary fibre	9.5
NFE*	20
Starch	13.5
Calcium	1.3
Phosphorus	1.1
Calcium to phosphorus ratio	1.2
Sodium	0.7
Omega-6	3
Omega-3	1.3
EPA+DHA	0.3

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	384
PCR (g/Mcal)***	115
Energy from protein (%)	43
Energy from fat (%)	38
Energy from NFE*(%)	19

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

SPECIFIC INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
Ascophyllum nodosum (%)	0.6
L-carnitine (mg/kg)	540

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Age (month)		
	3-5	6-8	9-12
0.5	15		
1	25	20	
1.5	40	30	25
2	50	40	30
3	75	60	45
4	100	80	60
5		100	75
6			90
7			105
8			120
9			135
10			150

These amounts are indicative and may vary depending on the breed and activity level of the young cat.

VETERINARY HPM®

ADULT NEUTERED

Approx. 10.5 x 5.5 mm

INDICATION

Complete diet for **adult cats**:
- **Sterilised** from **one year old.**

AVAILABLE FORMATS

50 g, 400g, 1.5 kg, 3 kg, 7 kg, 12 kg

This diet takes into account the modified nutritional requirements of adult cats after neutering. To promote weight control, it is formulated with low energy density, increased fibre content and high protein content.

GLOBAL PREVENTIVE PROFILE

Weight Control

The low energy content of the diet, the energy balance (Protein:Fat:Carbohydrate) and adapted feeding rations limit calorie intake. The increased fibre content helps achieve satiety. The L-carnitine limits fat tissue buildup.

Urinary Health

The richness in animal proteins stimulates water intake, increases urine volume and helps stabilise urinary pH, for a healthy urinary system.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance of omega-6/omega-3 fatty acids contribute to the epidermal barrier function and improve the quality of sebaceous secretions to promote a healthy skin and shiny coat.

Hairball control

A specific blend of fibres (insoluble and soluble) regulates the digestive transit and helps limit hairballs.

Oral & Dental Health

The *Ascophyllum nodosum* supplement helps limit dental plaque and tartar formation, reduce halitosis, and contributes to ensure good oral and dental health.

Additional Health Benefits

- Renal health
- High Digestive Tolerance

SCIENTIFICALLY PROVEN

BODY COMPOSITION

STILL OPTIMAL 5 MONTHS AFTER NEUTERING [1]

WATER INTAKE

35% SIGNIFICANTLY INCREASED VS A REFERENCE DRY DIET FOR ADULT CATS LOWER IN PROTEIN AND SODIUM [2]

RENAL SAFETY

40 MONTHS FOLLOW UP — NO NEGATIVE IMPACT ON THE RENAL BIOMARKERS [3]

OUR STUDIES

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(1) A. André et al. A high protein intake allows the preservation of lean mass and prevents the increase of fat mass, compared to a moderate protein intake, in neutered cats. ASAS Congress 2015
(2) I.Leriche et al. Effect of a dry diet composition on water intake in cats. ESVCN Congress 2014
(3) I Leriche, et al. Forty month-follow up of renal function in cats fed a high-protein diet. SEVC Congress 202

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	44%
OF ANIMAL ORIGIN	90%
LOW CARBOHYDRATE	20.5%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Hydrolysed pork and poultry proteins, Lignocellulose, Peas, Poultry Fats, Pea fiber, Minerals, Linseed, Inactivated brewer's yeast, Dried (sugar) beet pulp, Seaweed meal *(Ascophyllum nodosum)*, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Chitosamine from crustacean tissues, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	5.5
Protein	44
Animal to vegetal protein ratio (%)	90/10
Fat	13.5
Minerals	8.5
Crude cellulose	8
Total dietary fibre	12.5
NFE*	20.5
Starch	14
Calcium	1.3
Phosphorus	1.1
Ca/P ratio	1.2
Sodium	0.7
Omega-6	2.4
Omega-3	0.8

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	364
PCR (g/Mcal)***	121
Energy from protein (%)	45
Energy from fat (%)	34
Energy from NFE*(%)	21

SPECIFIC INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
Ascophyllum nodosum (%)	0.6
L-carnitine (mg/kg)	540
chitosan (mg/kg)	800

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Soft weight loss	Indoor exclusive	Indoor & Outdoor
2	21	25	25
3	32	35	40
4	42	45	55
5	53	60	65
6	63	70	80
7	74	85	90
8	84	95	105
9	95	105	120
10	105	120	130

These amounts are indicative and may vary depending on the breed of cat.

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

ADULT NEUTERED & ENTIRE WITH SALMON

Approx. 10.5 x 5.5 mm

INDICATION

Complete diet for **adult cats**:
- **Sterilised** and **entire** from **one year old.**

AVAILABLE FORMATS

1.5 kg, 3 kg, 7 kg, 12 kg

This diet takes into account the sedentary lifestage and/or the sterilisation impact on the nutritional requirements of adult cats. To promote optimal body weight, it is formulated with an optimised energy balance between proteins (high content), fats and carbohydrates. It addition, it is a salmon flavour option for neutered cats.

GLOBAL PREVENTIVE PROFILE

Optimal weight

The optimised energy balance (Protein: Fat:Carbohydrate) helps maintain an ideal body condition.

Urinary Health

The richness in animal proteins stimulates water intake. increases urine volume and helps stabilise urinary pH. for a healthy urinary system.

Skin & Coat Support

The high level of animal protein. source of sulfur-containing amino acids. and the balance of omega-6/ omega-3 fatty acids contribute to the epidermal barrier function and improve the quality of sebaceous secretions to promote a healthy skin and shiny coat.

Hairball control

A specific blend of fibres (insoluble and soluble) regulates the digestive transit and helps limit hairballs.

Oral & Dental Health

The *Ascophyllum nodosum* supplement helps limit dental plaque and tartar formation, reduce halitosis. and contributes to ensure good oral and dental health.

Additional Health Benefits

- Renal health
- High Digestive Tolerance

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	44%
OF ANIMAL ORIGIN	89%
LOW CARBOHYDRATE	20%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Poultry Fats. Hydrolysed pork and poultry proteins, Peas. Lignocellulose, Dehydrated salmon protein (4 %), Minerals, Linseed, Dried (sugar) beet pulp, Inactivated brewer's yeast, Seaweed meal *(Ascophyllum nodosum)*, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Chitosamine from crustacean tissues, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	5.5
Protein	44
Animal to vegetal protein ratio (%)	89/11
Fat	16
Minerals	8.5
Crude cellulose	6
Total dietary fibre	9.5
NFE*	20
Starch	13.5
Calcium	1.3
Phosphorus	1.1
Ca/P ratio	1.2
Sodium	0.7
Omega-6	3
Omega-3	0.9

SPECIFIC INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
Ascophyllum nodosum (%)	0.6
L-carnitine (mg/kg)	540
chitosan (mg/kg)	800

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	384
PCR (g/Mcal)***	115
Energy from protein (%)	43
Energy from fat (%)	38
Energy from NFE*(%)	19

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)			
	Neutered		Entire	
	Indoor exclusive	Indoor & Outdoor	Indoor exclusive	Indoor & Outdoor
2	25	25	30	30
3	35	40	40	45
4	45	50	55	65
5	55	65	70	80
6	70	75	85	95
7	80	90	100	110
8	90	100	115	125
9	100	115	125	140
10	115	125	140	155

These amounts are indicative and may vary depending on the breed of cat.

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

WET ADULT NEUTERED WITH SALMON

Chunks in gravy

INDICATION

Complete diet for **adult cats**:
- **Sterilised** from **one year old.**

AVAILABLE FORMATS

12 x 85 g box

This wet diet meets the modified nutritional requirements of neutered adult cats. It is formulated with low energy content and an optimised energy balance between proteins (high content), fats and carbohydrates.

GLOBAL PREVENTIVE PROFILE

Optimal weight

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

Urinary Health

The increased water intake helps increase urine volume and dilution. The richness in animal proteins helps stabilize urinary pH for a healthy urinary system.

Hydratation Support

The high water content of the diet naturally increases total water intake (food water + drinking water).

High Digestive Tolerance

The rigorous selection of high-quality raw materials and the majority of animal ingredients respect the carnivorous nature and digestive sensitivity of cats.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance of omega-6/omega-3 fatty acids contribute to the epidermal barrier function and improve the quality of sebaceous secretions to promote a healthy skin and shiny coat.

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	11.5%
OF ANIMAL ORIGIN	88%
LOW CARBOHYDRATE	2.4%

COMPOSITION

Chunks (50%): Pork kidney, Chicken liver, Pork lung lobe, Salmon, Chicken gizzard, Pork plasma, Minerals and vitamins, Chicken skin, Pea protein extract, Digest, Lignocellulose, Cellulose, Sunflower Oil, Potato starch, Caramel.
Gravy (50%): Water, Tapioca starch, Caramel.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	79
Protein	11.5
Animal to vegetal protein ratio (%)	88/12
Fat	4
Minerals	2.3
Crude cellulose	0.8
Total dietary fibre	1.5
NFE*	2.4
Calcium	0.2
Phosphorus	0.17
Ca/P ratio	1.2
Sodium	0.3
Omega-6	0.9
Omega-3	0.22

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	89
PCR (g/Mcal)***	129
Energy from protein (%)	50
Energy from fat (%)	39
Energy from NFE*(%)	11

SPECIFIC INGREDIENTS/ ADDITIVES

bentonite (%)	0.09

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

FEEDING GUIDELINES

The amounts are indicative and may vary depending on the breed of the cat. Exclusive Wet feeding is possible since VETERINARY HPM® Wet Adult Neutered cat with Salmon is a complete and balanced diet. Mixed feeding is also possible, combining VETERINARY HPM® Wet and Dry Adult 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 EXCLUSIVE FEEDING WITH WET (POUCH/DAY)		
Body Weight (kg)	Neutered and indoor	Neutered and indoor + outdoor
2	1	1.5
3	1.5	2
4	2.5	2.5
5	3	3
6	3.5	4
7	4	4.5
8	4.5	5
9	5	5.5
10	5.5	6.5

IF MIXED FEEDING WITH VET HPM DRY ADULT NEUTERED CAT				
Body Weight (kg)	Neutered and indoor		Neutered and indoor + outdoor	
	Wet (Pouch/day)	Dry (g/day)	Wet (Pouch/day)	Dry (g/day)
2	0.5	15	0.5	15
3	0.5	25	1	20
4	1	25	1	30
5	1	40	1	45
6	1	50	1	60
7	2	40	2	50
8	2	55	2	65
9	2	65	2	75
10	2	75	2	95

These amounts are indicative and may vary depending on the breed of cat.

SENIOR NEUTERED

Approx. 10.5 x 5.5 mm

INDICATION

Complete diet for **cats**:
- **Sterilised** for **over ten years old.**

AVAILABLE FORMATS

1.5 kg, 3 kg, 7 kg

This diet meets the nutritional requirements of senior cats beeing formulated with higher energy content and specific ingredients to help mobility and vitality. To support renal health, it has a phosphorus chelator and a reduced phosphorus content.

GLOBAL PREVENTIVE PROFILE

Vitality & Mobility Support

The high level of protein helps preserve muscle mass to support mobility. A blend of chondroprotective agents (natural chondroitin sulphate and glucosamine, added hyaluronic acid and egg shell membrane) helps maintain joint elasticity.

Renal health

The reduced phosphorus content and its digestive trapping by chitosan help maintain a healthy renal function.

Urinary Health

The richness in animal proteins stimulates water intake, increases urine volume and helps stabilise urinary pH, for a healthy urinary system.

Hairball control

A specific blend of fibres (insoluble and soluble) regulates the digestive transit and helps limit hairballs.

Oral & Dental Health

The *Ascophyllum nodosum* supplement helps limit dental plaque and tartar formation, reduce halitosis, and contributes to ensure good oral and dental health.

Additional Health Benefits

- Weight Control
- High Digestive Tolerance
- Skin & Coat Support

SCIENTIFICALLY PROVEN

PHOSPHORUS BINDING:

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

OUR STUDY

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

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	38%
OF ANIMAL ORIGIN	88%
LOW CARBOHYDRATE	25.5%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Poultry fats, Hydrolysed pork and poultry proteins, Peas, Lignocellulose, Minerals, Pea fiber, Dried (sugar) beet pulp, Inactivated brewer's yeast, Fish oil, Linseed, Seaweed meal *(Ascophyllum nodosum)*, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Chitosamine from crustacean tissues, Egg membrane, Hyaluronic acid from fermentation, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	5.5
Protein	38
Animal to vegetal protein ratio (%)	88/12
Fat	16
Minerals	7.5
Crude cellulose	7.5
Total dietary fibre	11.5
NFE*	25.5
Starch	18
Calcium	1.3
Phosphorus	0.8
Ca/P ratio	1.6
Sodium	0.5
Omega-6	3
Omega-3	0.9
EPA+DHA	0.4

SPECIFIC INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
Ascophyllum nodosum (%)	0.6
L-carnitine (mg/kg)	540
chitosan (mg/kg)	800
eggshell membrane (mg/kg)	300
hyaluronic acid (mg/kg)	100

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	377
PCR (g/Mcal)***	101
Energy from protein (%)	37
Energy from Fat (%)	38
Energy from NFE* (%)	25

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)	
	Indoor exclusive	Indoor & Outdoor
2	25	30
3	40	40
4	50	55
5	65	70
6	75	85
7	90	100
8	100	110
9	115	125
10	125	140

These amounts are indicative and may vary depending on the breed of cat.

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

NUTRITIONAL INFORMATION

VETERINARY HPM®

AS FED	KITTEN PRE NEUTERED	JUNIOR NEUTERED	ADULT NEUTERED	ADULT NEUTERED & ENTIRE	SENIOR NEUTERED
Analytical constituents (%)					
Moisture	5.5	5.5	5.5	5.5	5.5
Protein	45	44	44	44	38
Animal to vegetal protein ratio	92/08	89/11	90/10	89/11	88/12
Fat	20	16	13.5	16	16
Minerals	8.5	8.5	8.5	8.5	7.5
Crude cellulose	4	6	8	6	7.5
Total dietary fibre	7.5	9.5	12.5	9.5	11.5
Nitrogen Free Extract (NFE)	17.0	20.0	20.5	20.0	25.5
Starch	13	13.5	14	13.5	18
Calcium	1.3	1.3	1.3	1.3	1.3
Phosphorus	1.1	1.1	1.1	1.1	0.8
Calcium to phosphorus ratio	1.2	1.2	1.2	1.2	1.6
Sodium	0.7	0.7	0.7	0.7	0.5
Potassium	0.7	0.7	0.7	0.7	0.7
Magnesium	0.1	0.1	0.1	0.1	0.1
Omega-6	3.5	3	2.4	3	3
Omega-3	1	1.3	0.8	0.9	0.9
Omega-6 / omega-3	3.5	2.3	3.0	3.3	3.3
EPA + DHA	0.3	0.3	0	0	0.4
Nutritional Values					
Calcuted metabolisable energy NRC2006 (kcal/100g)	412	384	364	384	377
In vivo measured ME (kcal/100g)	382	362	343	362	364
Apparent digestibility coeff. for protein (%)	84.0	84.0	83.0	84.0	84.5
Apparent digestibility coeff. for fat (%)	94.5	93.0	95.0	93.0	93.5
PCR (g/Mcal) (NRC2006)	109	115	121	115	101
Energy from protein (%)	41	43	45	43	37
Energy from fat (%)	44	38	34	38	38
Energy from NFE (%)	15	19	21	19	25
Urinary pH	6.2 - 6.7	6.0 - 6.5	6.0 - 6.5	6.0 - 6.5	6.2 - 6.7
Struvite RSS	<2.5	<2.5	<2.5	<2.5	<2.5
Ca oxalate RSS	<12	<12	<12	<12	<12
Added vitamins					
Vitamin A (IU/kg)	17000	17000	17000	17000	17000
Vitamin D3 (IU/kg)	1700	1700	1700	1700	1700
Vitamin E (mg/kg)	610	610	610	610	610
Vitamin K3 (mg/kg)	0.22	0.22	0.22	0.22	0.22
Vitamin B1 thiamine) (mg/kg)	11.2	11.2	11.2	11.2	11.2
Vitamin B2 (riboflavine) (mg/kg)	8	8	8	8	8
Vitamin B3 (PP. niacine. nicotinic ac) (mg/kg)	113.4	113.4	113.4	113.4	113.4
Vitamin B5 (pantothenic ac) (mg/kg)	14.5	14.5	14.5	14.5	14.5
Vitamin B6 (pyridoxine) (mg/kg)	7.6	7.6	7.6	7.6	7.6
Vitamin B8 (biotine. B7. H) (mg/kg)	0.15	0.15	0.15	0.15	0.15
Vitamin B9 (folic ac) (mg/kg)	1.9	1.9	1.9	1.9	1.9
Vitamin B12 (cobalamine) (mg/kg)	0.046	0.046	0.046	0.046	0.046
Choline (mg/kg)	4000	4000	4000	4000	4000
Taurine (mg/kg)	2460	2460	2460	2460	2460
Total trace elements					
Copper (mg/kg)	17	17	20	20	17
Iron (mg/kg)	300	260	250	250	250
Iodine (mg/kg)	5	5	5	5	4
Manganese (mg/kg)	27	27	30	30	22
Selenium (mg/kg)	0.5	0.5	0.5	0.5	0.4
Zinc (mg/kg)	160	150	160	160	150

DRY FELINE RANGE

CAT

AS FED	KITTEN PRE NEUTERED	JUNIOR NEUTERED	ADULT NEUTERED	ADULT NEUTERED & ENTIRE	SENIOR NEUTERED
Specific functional ingredients / additives					
Bentonite %	0.5	0.5	0.5	0.5	0.5
Heat-treated lactobacilli (mg/kg)	7	7	7	7	7
Beta-glucan (mg/kg)	500	0	0	0	0
Ascophyllum nodosum (%)	0.6	0.6	0.6	0.6	0.6
L-Carnitine (mg/kg)	540	540	540	540	540
Chitosan (mg/kg)	-	-	800	800	800
Eggshell membrane (mg/kg)	0	0	0	0	300
Hyaluronic acid (mg/kg)					100

ON DRY MATTER (%)	KITTEN PRE NEUTERED	JUNIOR NEUTERED	ADULT NEUTERED	ADULT NEUTERED & ENTIRE	SENIOR NEUTERED
Protein	47.6	46.6	46.6	46.6	40.2
Fat	21.2	16.9	14.3	16.9	16.9
Minerals	9.0	9.0	9.0	9.0	7.9
Crude cellulose	4.2	6.3	8.5	6.3	7.9
Total Dietary Fibre	7.9	10.1	13.2	10.1	12.2
Nitrogen Free Extract (NFE)	18.0	21.2	21.7	21.2	27.0
Starch	13.8	14.3	14.8	14.3	19.0
Calcium	1.4	1.4	1.4	1.4	1.4
Phosphorus	1.2	1.2	1.2	1.2	0.8
Calcium to phosphorus ratio	1.2	1.2	1.2	1.2	1.6
Sodium	0.7	0.7	0.7	0.7	0.5
Potassium	0.7	0.7	0.7	0.7	0.7
Magnesium	0.1	0.1	0.1	0.1	0.1
Omega-6	3.7	3.2	2.5	3.2	3.2
Omega-3	1.1	1.4	0.8	1.0	1.0
Calculated metabolisable energy (NRC 2006) (kcal/100g)	436	406	385	406	399

ON 1000 kcal (g)	KITTEN PRE NEUTERED	JUNIOR NEUTERED	ADULT NEUTERED	ADULT NEUTERED & ENTIRE	SENIOR NEUTERED
Protein	109.2	114.6	120.9	114.6	100.8
Fat	48.5	41.7	37.1	41.7	42.4
Minerals	20.6	22.1	23.4	22.1	19.9
Crude cellulose	9.7	15.6	22.0	15.6	19.9
Total Dietary Fibre	18.2	24.7	34.3	24.7	30.5
Nitrogen Free Extract (NFE)	41.3	52.1	56.3	52.1	67.6
Starch	31.6	35.2	38.5	35.2	47.7
Calcium	3.2	3.4	3.6	3.4	3.4
Phosphorus	2.7	2.9	3.0	2.9	2.1
Ca/P ratio	1.2	1.2	1.2	1.2	1.6
Sodium	1.7	1.8	1.9	1.8	1.3
Potassium	1.7	1.8	1.9	1.8	1.9
Magnesium	0.2	0.3	0.3	0.3	0.3
Omega-6	8.5	7.8	6.6	7.8	8
Omega-3	2.4	3.4	2.2	2.3	2.4

NUTRITIONAL INFORMATION

AS FED	WET ADULT NEUTERED WITH SALMON
Analytical constituents (%)	
Moisture	79
Protein	11.5
Animal to vegetal protein ratio	88/12
Fat	4
Minerals	2.3
Crude cellulose	0.8
Total dietary fibre	1.5
Nitrogen Free Extract (NFE)	2.4
Starch	0.8
Calcium	0.2
Phosphorus	0.17
Calcium to phosphorus ratio	1.2
Sodium	0.3
Potassium	0.25
Magnesium	0.016
Omega-6	0.9
Omega-3	0.22
Omega-6 / omega-3	4.1
Nutritional values	
Calculated metabolisable energy (NRC 2006)(Kcal/100g)	89
In vivo measured metabolisable energy (kcal/100g)	83
Protein to calorie ratio (NRC 2006) (g/Mcal)	129
Apparent digestibility coefficient for protein (%)	89
Apparent digestibility coefficient for fat (%)	95
Energy from protein (%)	50
Energy from fat (%)	39
Energy from NFE (%)	11
Urinary pH	6.0 - 6.5
Struvite RSS	<2.5
Ca oxalate RSS	<12

AS FED	WET ADULT NEUTERED WITH SALMON
Total vitamins and trace elements	
Vitamin A (IU/kg)	20000
Vitamin D3 (IU/kg)	200
Vitamin E (mg/kg)	150
Vitamin B1 thiamine) (mg/kg)	3.5
Vitamin B2 (riboflavine) (mg/kg)	3.5
Vitamin B3 (PP. niacine. nicotinic ac) (mg/kg)	35
Vitamin B5 (pantothenic ac) (mg/kg)	8
Vit min B6 (pyridoxine) (mg/kg)	2
Vitamin B8 (biotine. vitamin B7. vitamin H) (mg/kg)	0.06
Vitamin B9 (folic ac) (mg/kg)	0.4
Vitamin B12 (cobalamine) (mg/kg)	0.03
Choline (mg/kg)	1300
Taurine (mg/kg)	1600
Copper (mg/kg)	3
Iron (mg/kg)	60
Iodine (mg/kg)	0.9
Manganese (mg/kg)	3.5
Selenium (mg/kg)	0.4
Zinc (mg/kg)	45
Specific functional ingredients / additives	
Bentonite (%)	0.09

WET ADULT NEUTERED WITH SALMON

CAT

ON 1000 kcal (g)	WET ADULT NEUTERED WITH SALMON
Analytical constituents (%)	
Protein	129.2
Fat	44.9
Minerals	25.8
Crude cellulose	9
Total dietary fibre	16.9
Nitrogen Free Extract (NFE)	27
Starch	9
Calcium	2.2
Phosphorus	1.9
Calcium to phosphorus ratio	1.2
Sodium	3.37
Potassium	2.81
Magnesium	0.18
Omega-6	10.11
Omega-3	2.47
Omega-6 / omega-3	4.1
Total vitamins and trace elements	
Vitamin A (IU/kg)	22472
Vitamin D3 (IU/kg)	225
Vitamin E (mg/kg)	169
Vitamin B1 thiamine) (mg/kg)	3.9
Vitamin B2 (riboflavine) (mg/kg)	3.9
Vitamin B3 (PP. niacine. nicotinic ac) (mg/kg)	39.3
Vitamin B5 (pantothenic ac) (mg/kg)	9
Vitamin B6 (pyridoxine) (mg/kg)	2.2
Vitamin B8 (biotine. vitamin B7. vitamin H) (mg/kg)	0.07
Vitamin B9 (folic ac) (mg/kg)	0.4
Vitamin B12 (cobalamine) (mg/kg)	0.03
Choline (mg/kg)	1461
Taurine (mg/kg)	1798
Copper (mg/kg)	3.4
Iron (mg/kg)	67.4
Iodine (mg/kg)	1
Manganese (mg/kg)	3.9
Selenium (mg/kg)	0.4
Zinc (mg/kg)	50.6

FEEDING TABLES

VETERINARY HPM®

TABLE 1: GESTATION & LACTATION

	DAILY RATION (g/day)	
	KITTEN PRE NEUTERED	
	1st MONTH GESTATION	2nd MONTH GESTATION
BW (kg)	ENTIRE	
2	30	45
2.5	35	60
3	45	70
3.5	50	80
4	60	95
4.5	65	105
5	75	115
5.5	80	130
6	85	140
6.5	95	150
7	100	165
7.5	110	175
8	115	185
8.5	125	200
9	130	210
10	145	235

These are suggested quantities and may vary depending on the cat's breed. During gestation. the weight is the one at the beginning of gestation. During lactation. the queen may be fed ad libitum.

TABLE 2: GROWTH

	DAILY RATION (g/day)					
	KITTEN PRE NEUTERED			JUNIOR NEUTERED		
	3-5 MONTHS	6-8 MONTHS	9-12 MONTHS	3-5 MONTHS	6-8 MONTHS	9-12 MONTHS
BW (kg)	ENTIRE			STERILISED		
0.5	15	10	10	15	10	10
1	30	25	15	25	20	15
1.5	45	35	25	40	30	25
2	60	45	35	50	40	30
2.5	75	60	45	65	50	40
3	85	70	50	75	60	45
3.5	100	80	60	90	70	55
4	115	95	70	100	80	60
4.5	130	105	80	115	90	70
5	145	115	85	125	100	75
5.5	160	130	95	140	110	85
6	175	140	105	150	120	90
6.5	190	150	115	165	130	100
7	205	165	120	175	140	105
7.5	220	175	130	190	150	115
8	235	185	140	200	160	120
8.5	250	200	150	215	170	130
9	260	210	155	225	180	135
10	290	235	175	250	200	150

DRY FELINE RANGE

CAT

TABLE 3:
ADULT & SENIOR

	DAILY RATION (g/day)								
	ADULT NEUTERED			ADULT NEUTERED & ENTIRE				SENIOR NEUTERED	
	STERILISED			STERILISED		ENTIRE		STERILISED	
BW (kg)	SOFT WEIGHT LOSS	INDOOR EXCLUSIVE	INDOOR & OUTDOOR	INDOOR EXCLUSIVE	INDOOR & OUTDOOR	INDOOR EXCLUSIVE	INDOOR & OUTDOOR	INDOOR EXCLUSIVE	INDOOR & OUTDOOR
2	21	25	25	25	25	30	30	25	30
2.5	26	30	35	30	30	35	40	30	35
3	32	35	40	35	40	40	45	40	40
3.5	37	40	45	40	45	50	55	45	50
4	42	45	55	45	50	55	65	50	55
4.5	47	55	60	50	55	65	70	55	65
5	53	60	65	55	65	70	80	65	70
5.5	58	65	75	60	70	75	85	70	75
6	63	70	80	70	75	85	95	75	85
6.5	69	75	85	75	80	90	100	80	90
7	74	85	90	80	90	100	110	90	100
7.5	79	90	100	85	95	105	115	95	105
8	84	95	105	90	100	115	125	100	110
8.5	90	100	110	95	105	120	135	105	120
9	95	105	120	100	115	125	140	115	125
10	105	120	130	115	125	140	155	125	140

FEEDING TABLES

VETERINARY HPM®

TABLE 1: IF EXCLUSIVE FEEDING WITH WET ADULT NEUTERED WITH SALMON

	NEUTERED AND INDOOR	NEUTERED AND INDOOR + OUTDOOR	ENTIRE AND INDOOR + OUTDOOR	ENTIRE AND INDOOR + OUTDOOR
BW (kg)	WET	WET	WET	WET
2	1	1.5	1.5	1.5
2.5	1.5	1.5	2	2
3	1.5	2	2	2.5
3.5	2	2	2.5	3
4	2.5	2.5	3	3
4.5	2.5	3	3	3.5
5	3	3	3.5	4
5.5	3	3.5	4	4.5
6	3.5	4	4.5	4.5
6.5	3.5	4	4.5	5
7	4	4.5	5	5.5
7.5	4.5	4.5	5.5	6
8	4.5	5	5.5	6.5
8.5	5	5.5	6	6.5
9	5	5.5	6.5	7
9.5	5.5	6	7	7.5
10	5.5	6.5	7	8

TABLE 2: IF MIXED FEEDING WITH VET HPM DRY ADULT NEUTERED CAT

	NEUTERED AND INDOOR		NEUTERED AND INDOOR + OUTDOOR	
BW (kg)	WET (POUCH/DAY)	DRY (g/DAY)	WET (POUCH/DAY)	DRY (g/DAY)
2	0.5	15	0.5	15
2.5	0.5	20	0.5	25
3	0.5	25	1	20
3.5	1	20	1	25
4	1	30	1	35
4.5	1	35	1	40
5	1	40	1	45
5.5	1	45	1	55
6	1	50	1	60
6.5	1	60	2	45
7	2	45	2	50
7.5	2	50	2	60
8	2	55	2	65
8.5	2	60	2	75
9	2	65	2	80
9.5	2	75	2	85
10	2	80	2	95

These are suggested quantities and may vary depending on the cat's breed. During gestation. the weight is the one at the beginning of gestation. During lactation. the queen may be fed ad libitum.

WET ADULT NEUTERED WITH SALMON

CAT

TABLE 3: IF MIXED FEEDING WITH VET HPM DRY ADULT NEUTERED AND ENTIRE CAT WITH SALMON

	NEUTERED AND INDOOR		NEUTERED AND INDOOR + OUTDOOR		ENTIRE AND INDOOR		ENTIRE AND INDOOR+OUTDOOR	
BW (kg)	WET (POUCH/DAY)	DRY (g/DAY)	WET (POUCH/DAY)	DRY (g/DAY)	WET (POUCH/DAY)	DRY (g/DAY)	WET (POUCH/DAY)	DRY (g/DAY)
2	0.5	15	0.5	15	0.5	20	0.5	20
2.5	0.5	20	0.5	20	1	15	1	20
3	0.5	25	1	20	1	20	1	25
3.5	1	20	1	25	1	30	1	35
4	1	25	1	30	1	35	1	45
4.5	1	30	1	35	1	45	1	50
5	1	35	1	45	1	50	1	60
5.5	1	40	1	50	2	40	2	45
6	1	50	1	55	2	45	2	55
6.5	1	55	2	40	2	50	2	60
7	2	40	2	50	2	60	2	70
7.5	2	45	2	55	2	65	2	80
8	2	50	2	60	2	75	2	85
8.5	2	55	2	65	2	80	2	95
9	2	60	2	75	2	85	2	100
9.5	2	65	2	80	2	95	2	110
10	2	75	2	85	2	100	2	115


VETERINARY
HPM®

CANINE RANGE

VETERINARY HPM®

CANINE PHYSIOLOGICAL RANGE

TABLE OF CONTENTS

DOG

GLOBAL PREVENTIVE PROFILE

KEY INFORMATION

	SMALL & TOY DOG		
	PUPPY	**ADULT**	**SENIOR**
CANINE PRODUCT VISUAL			
Bag Format	**100 g, 400 g, 1.5 kg, 3 kg**	**100 g, 1.5 kg, 3 kg, 7 kg**	**1.5 kg, 3 kg, 7 kg**
Protein (% as fed)	35	34	32
Protein to calorie ratio (g/Mcal)	88	92	98
Carbohydrate (NFE) (% as fed)	23,5	27,5	29
Metabolisable Energy (kcal/100g)	396	370	327
Indications	• Entire puppies up to 10 months old of Small breeds (adult weight < 10 kg) • Pregnant and lactating small breed bitches	Entire Small breed dogs (< 10 kg), over 10 months old	• Entire Small breed dogs (< 10 kg) of over 10 years old. • Entire Toy breed dogs (< 5 kg) of over 12 years old
GLOBAL PREVENTIVE PROFILE Top 5 Health Benefits	**Harmonious growth**	**Optimal weight**	**Weight Control**
	Immune Support	Optimal muscle mass	Oral & dental health
	High Digestive Tolerance	Oral & dental health	Renal health
	Oral & dental health	Skin & Coat Support	Skin & Coat Support
	Brain development	Urinary Health	Mobility Support

KEY INFORMATION

	NEUTERED DOG OR DOGS PREDISPOSED TO WEIGHT GAIN				
	ADULT SMALL & TOY	**SENIOR SMALL & TOY**	**ADULT LARGE & MEDIUM**	**ADULT SENSITIVE**	**SENIOR LARGE & MEDIUM**
CANINE PRODUCT VISUAL					
Bag Format	**100 g, 400 g, 1.5 kg, 3 kg, 7 kg**	**1.5 kg, 3 kg, 7kg**	**100 g, 3 kg, 7 kg, 12 kg, 16 kg**	**3 kg, 12 kg**	**3 kg, 12 kg**
Protein (% as fed)	34	32	34	29	32
Protein to calorie ratio (g/Mcal)	108	103	108	86	103
Carbohydrate (NFE) (% as fed)	25,5	30	25,5	33	30
Metabolisable Energy (kcal/100g)	315	311	315	338	311
Indications	Neutered Small breed dogs (< 10 kg), over 10 months old	• Neutered Small breed dogs (< 10 kg) of over 10 years old • Neutered Toy breed dogs (< 5 kg) of over 12 years old	• Neutered Large breed dogs (> 25 kg), over 18 months old • Neutered Medium breed dogs (11-25 kg), over 12 months old	Dogs with digestive sensitivity: • Neutered Large breed dogs (> 25 kg), over 18 months old • Neutered Medium breed dogs (11-25 kg), over 12 months old	• Neutered Large breed dogs (> 25 kg), over 6 years old • Neutered Medium breed dogs (11-25 kg), over 8 years old
GLOBAL PREVENTIVE PROFILE Top 5 Health Benefits	**Weight & satiety control**	**Weight & satiety control**	**Weight & satiety control**	**Improved stools**	**Weight & satiety control**
	Optimal muscle mass	Optimal muscle mass	Optimal muscle mass	High Digestive Tolerance	Optimal muscle mass
	Oral & dental health	Oral & dental health	Mobility support	Weight & Satiety Control	Mobility support
	Skin & Coat Support	Renal health	High Digestive Tolerance	Optimal muscle mass	Renal health
	Urinary Health	Mobility support	Skin & Coat Support	Mobility support	High Digestive Tolerance

	LARGE & MEDIUM DOG					
	PUPPY	**JUNIOR MEDIUM**	**JUNIOR LARGE**	**ADULT**	**ADULT SENSITIVE**	**SENIOR**
CANINE PRODUCT VISUAL						
Bag Format	**100 g, 3 kg, 7 kg, 12 kg**	**3 kg, 12 kg**	**3 kg, 12 kg**	**100 g, 3 kg, 7 kg, 12 kg, 16 kg**	**3 kg, 12 kg**	**3 kg, 12 kg**
Protein (% as fed)	35	35	35	34	29	32
Protein to calorie ratio (g/Mcal)	88	91	98	92	77	98
Carbohydrate (NFE) (% as fed)	23,5	25	28	27,5	32	29
Metabolisable Energy (kcal/100g)	396	384	358	370	377	327
Indications	• Entire Large breed dogs (> 25 kg), up to 7 months old. • Entire Medium breed dogs (11-25 kg), up to 6 months old • Pregnant/ Lactating Medium and Large breed bitches.	Entire Medium breed dogs (adult weight 11-25 kg), after the growth peak, from 7 to 12 months	Entire Large breed dogs (adult weight > 25 kg), after the growth peak, from 8 to 18 months	• Entire Large breed dogs (> 25 kg), over 18 months old • Entire Medium breed dogs (11-25 kg), over 12 months old	Dogs with digestive sensitivity: • Entire Large breed dogs (> 25 kg), over 18 months old • Entire Medium breed dogs (11-25 kg), over 12 months old	• Entire Large breed dogs (> 25 kg), over 6 years old • Entire Medium breed dogs (11-25 kg), over 8 years old
GLOBAL PREVENTIVE PROFILE Top 5 Health Benefits	**Harmonious growth**	**Harmonious growth**	**Harmonious growth**	**Optimal weight**	**Improved stools**	**Weight Control**
	Immune support	Controlled weight gain	Controlled weight gain	Optimal muscle mass	High Digestive Tolerance	Mobility Support
	High Digestive Tolerance	Muscle development	Healthy joint growth	Mobility Support	Optimal weight	Muscle support
	Skin & Coat Support	Healthy joint growth	Muscle development	High Digestive Tolerance	Mobility Support	Renal health
	Brain development	High Digestive Tolerance	High Digestive Tolerance	Skin & Coat Support	Skin & Coat Support	High Digestive Tolerance

PUPPY SMALL & TOY

Approx. 7.5 x 4.5 mm

INDICATION

Complete diet for **puppies**:

- **Small breeds**
  adult weight (< 10 kg)
  up to 10 months old.

Complete diet for **bitches**:

- **Pregnant/Lactating small breed bitches.**

AVAILABLE FORMATS

100 g, 400 g, 1.5 kg, 3 kg

This diet meets the nutritional requirements for healthy growth. It is formulated with high energy density, high protein content and a balanced mineral intake.

GLOBAL PREVENTIVE PROFILE

Harmonious growth

The high energy density and degree of digestibility provide a concentrated diet covering the intense and rapid growth requirements of small & toy breed puppies. The high protein content, with balanced calcium and phosphorus levels, ensures healthy growth.

Immune Support

Beta-glucans, extracted from brewer's yeast cell walls help to promote the development of the puppy's own immune system, to improve vaccine response and disease resistance.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotics) support the growth of the beneficial digestive flora and contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency.

Oral & dental health

The *Ascophyllum nodosum* supplement helps limit dental plaque and tartar formation, reduce halitosis, and contributes to ensure good oral and dental health.

Brain development

DHA from fish oil contributes to the healthy development of the puppy's brain and cognitive function.

Additional Health Benefits

• Skin & Coat Support

SCIENTIFICALLY PROVEN

IMMUNE SUPPORT

3 WEEKS AFTER COMPLETE VACCINATION — ADDITION OF BETAGLUCAN INCREASES EFFICIENTLY THE HUMORAL RESPONSE (1)

DIGESTIVE TOLERANCE AFTER 1 MONTH (2)

86% DOGS WITH GOOD DIGESTIVE TOLERANCE — FLATULENCE (80%); ODOR OF FAECES (78%); TEXTURE OF FAECES (98%); VOLUME OF FAECES (86%)

OUR STUDIES

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(1) I. Leriche et al. Immunostimulatory effect of beta-1,3/1,6-glucan supplementation in a dry diet after vaccination in puppies. SEVC Congress 2015.
(2) G. Chaix et al. Questionnaire-based pet owner evaluation of gastrointestinal tolerance of a new high protein low carbohydrate diet range in growing dogs. Intern J Appl Res Vet Med Vol. 14, No.2, 2016

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	35%
OF ANIMAL ORIGIN	89%
LOW CARBOHYDRATE	23.5%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Poultry Fats, Peas, Lignocellulose, Hydrolysed pork and poultry proteins, Minerals, Linseed, Fish oil, Dried (sugar) beet pulp, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Seaweed meal *(Ascophyllum nodosum)*, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	9
Protein	35
Animal to vegetal protein ratio (%)	89/11
Fat	21
Minerals	7.5
Crude cellulose	4
Total dietary fibre	7.5
NFE*	23.5
Starch	19
Calcium	1.3
Phosphorus	1
Ca/P ratio	1.3
Sodium	0.5
Omega-6	4
Omega-3	1.2
EPA+DHA	0.3

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	396
PCR (g/Mcal)***	88
Energy from protein (%)	32
Energy from fat (%)	47
Energy from NFE*(%)	21

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
beta-glucan (mg/kg)	500
Ascophyllum nodosum (%)	0.2
L-carnitine (mg/kg)	330

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)					
	Age (month)					
	2	3	4-6	7	8-9	10
0.5	50	45	35	35		
1	80	70	60	55	45	40
1.5	105	90	75	70	60	50
2	125	110	95	85	75	65
3	165	145	125	110	100	80
4	200	175	150	135	120	100
5		200	175	155	140	115
6			195	175	155	130
7				195	175	145
8				215	190	160
9					205	170
10						185

These amounts are indicative and may vary depending on the breed and activity level of the puppy.

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

VETERINARY HPM®

ADULT SMALL & TOY

Approx. 10.5 x 6 mm

INDICATION

Complete diet for **entire adult dogs:**

- **Small breeds** (< 10 kg), **over 10 months old.**

AVAILABLE FORMATS

100 g, 1.5 kg, 3 kg, 7 kg

This diet meets the nutritional requirements of entire adult dogs. It is formulated with an optimised energy balance between proteins (high content), fats and carbohydrates.

GLOBAL PREVENTIVE PROFILE

Optimal weight

The optimised energy balance (Protein: Fat: Carbohydrate) helps maintain an ideal body condition.

Optimal muscle mass

The high protein content promotes muscle mass.

Oral & dental health

The *Ascophyllum nodosum* supplement helps limit dental plaque and tartar formation, reduce halitosis, and contributes to ensure good oral and dental health.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance of between omega-6 and omega-3 fatty acids contribute to the epidermal barrier function and improve the quality of sebaceous secretions to promote a healthy skin and shiny coat.

Urinary Health

The richness in animal proteins stimulates water intake, increases urine volume and helps stabilise urinary pH, for a healthy urinary system.

Additional Health Benefits

- High Digestive Tolerance
- Renal health

SCIENTIFICALLY PROVEN

DIGESTIVE TOLERANCE AFTER 1 MONTH (1)

87% DOGS WITH GOOD DIGESTIVE TOLERANCE

- FLATULENCE (79%)
- ODOR OF FAECES (87%)
- TEXTURE OF FAECES (100%)
- VOLUME OF FAECES (83%)

RENAL SAFETY (2)

40 MONTHS FOLLOW UP

- NO NEGATIVE IMPACT ON THE RENAL BIOMARKERS

OUR STUDIES

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Page 96

(1) G.Chaix et al. Questionnaire-based Pet owner evaluation of gastrointestinal tolerance of a new high protein-low carbohydrate diet range in adult dogs. Intern J Appl Res Vet Med • Vol. 14, No. 3, 2016.
(2) I. Leriche et al. Forty month-follow up of renal function in dogs fed a high-protein diet. ESVCN Congress 2020.

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	34%
OF ANIMAL ORIGIN	85%
LOW CARBOHYDRATE	27.5%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Poultry Fats, Peas, Hydrolysed pork and poultry proteins, Lignocellulose, Minerals, Linseed, Dried (sugar) beet pulp, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Seaweed meal *(Ascophyllum nodosum)*, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	9
Protein	34
Animal to vegetal protein ratio (%)	85/15
Fat	17
Minerals	7.5
Crude cellulose	5
Total dietary fibre	8.5
NFE*	27.5
Starch	21
Calcium	1.3
Phosphorus	1
Ca/P ratio	1.3
Sodium	0.5
Omega-6	3.4
Omega-3	0.8

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	370
PCR (g/Mcal)***	92
Energy from protein (%)	33
Energy from fat (%)	40
Energy from NFE*(%)	27

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
Ascophyllum nodosum (%)	0.2
L-carnitine (mg/kg)	330

FEEDING GUIDELINES

Active+	Daily ration (g/day)		
	Active-	Active=	Active+
1	40	40	45
2	60	65	75
3	80	90	95
4	95	105	115
5	110	125	135
6	125	140	155
7	140	155	170
8	150	170	185
9	165	185	200
10	175	195	215

These amounts are approximate and may vary depending on the dog's breed

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

VETERINARY HPM®

SENIOR SMALL & TOY

Approx. 10.5 x 6 mm

INDICATION

Complete diet for **dogs:**

- **Small breeds** (< 10 kg) of **over 10 years old**.
- **Toy breeds** (< 5 kg) of **over 12 years old**.

AVAILABLE FORMATS

1.5 kg, 3 kg, 7 kg

This diet meets the nutritional requirements of senior dogs, providing a reduced energy and phosphorus content.

GLOBAL PREVENTIVE PROFILE

Optimal weight

The reduced energy content helps limit the risk of excessive weight gain due to decreased activity. The L-carnitine supplement helps fat metabolism and limits fat tissue buildup.

Oral & dental health

The *Ascophyllum nodosum* supplement helps limit dental plaque and tartar formation, reduce halitosis, and contributes to ensure good oral and dental health.

Renal health

The reduced phosphorus content helps maintain a healthy renal function.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance of Omega-6/ Omega-3 fatty acids contribute to the epidermal barrier function and improve the quality of sebaceous secretions to promote a healthy skin and shiny coat.

Mobility Support

The high level of protein helps preserve muscle mass to support mobility. A blend of chondroprotective agents (natural chondroitin sulphate and glucosamine, added hyaluronic acid and egg shell membrane) helps maintain joint elasticity.

Additional Health Benefits

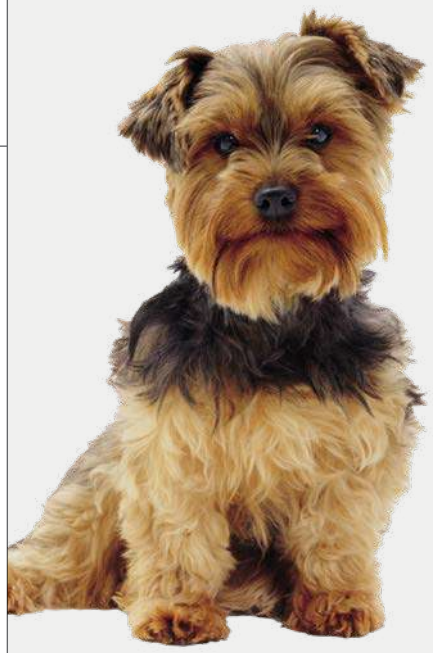
- High Digestive Tolerance
- Urinary Health

CARNIVORE NUTRITION

	% AS FED
HIGH PROTEIN	32%
OF ANIMAL ORIGIN	87%
LOW CARBOHYDRATE	29%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Lignocellulose, Hydrolysed pork and poultry proteins, Poultry Fats, Peas, Pea fiber, Minerals, Linseed, Fish oil, Dried (sugar) beet pulp, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Seaweed meal *(Ascophyllum nodosum)*, Egg membrane, hyaluronic acid from fermentation, Inactivated *Lactobacillus helveticus*.



ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	9
Protein	32
Animal to vegetal protein ratio (%)	87/13
Fat	14
Minerals	6.5
Crude cellulose	9.5
Total dietary fibre	15.5
NFE*	29
Starch	22
Calcium	1.1
Phosphorus	0.7
Ca/P ratio	1.6
Sodium	0.4
Omega-6	2.6
Omega-3	0.9
EPA+DHA	0.3

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
Ascophyllum nodosum (%)	0.2
L-carnitine (mg/kg)	330
eggshell membrane (mg/kg)	300
hyaluronic acid (mg/kg)	100

FEEDING GUIDELINES

Active+	Daily ration (g/day)		
	Active-	Active=	Active+
1	40	45	45
2	60	70	75
3	80	90	100
4	95	110	120
5	115	125	140
6	130	140	155
7	140	155	175
8	155	170	190
9	165	185	205
10	180	200	220

These amounts are approximate and may vary depending on the dog's breed

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	327
PCR (g/Mcal)***	98
Energy from protein (%)	34
Energy from fat (%)	36
Energy from NFE*(%)	30

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

VETERINARY HPM®

ADULT NEUTERED SMALL & TOY

Approx. 10.5 x 6 mm

INDICATION

Complete diet for **neutered adult dogs** (or those with a tendency to be overweight):

- **Small breeds** (< 10 kg), **over 10 months old.**

AVAILABLE FORMATS

100 g, 400 g, 1.5 kg, 3 kg, 7 kg

This diet takes into account the modified nutritional requirements of neutered adult dogs. This formula helps maintain optimal body weight with its low energy, increased fiber, and high protein content.

GLOBAL PREVENTIVE PROFILE

Weight & satiety control

The reduced energy content of the diet and adapted feeding rations limit calorie intake. The optimised energy balance (Protein:Fat:Carbohydrate) helps maintain an ideal body condition. The richness in both protein and fibre helps achieve satiety. The L-carnitine supplement helps fat metabolism and limits fat tissue buildup.

Optimal muscle mass

The high protein content promotes muscle mass.

Oral & dental health

The *Ascophyllum nodosum* supplement helps limit dental plaque and tartar formation, reduce halitosis, and contributes to ensure good oral and dental health.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance of between omega-6 and omega-3 fatty acids contribute to the epidermal barrier function and improve the quality of sebaceous secretions to promote a healthy skin and shiny coat.

Urinary Health

The richness in animal proteins stimulates water intake, increases urine volume and helps stabilise urinary pH, for a healthy urinary system.

Additional Health Benefits

- High Digestive Tolerance

SCIENTIFICALLY PROVEN

DIGESTIVE TOLERANCE AFTER 1 MONTH (1)

91% DOGS WITH GOOD DIGESTIVE TOLERANCE

- FLATULENCE (83%)
- ODOR OF FAECES (86%)
- TEXTURE OF FAECES (99%)
- VOLUME OF FAECES (94%)

OUR STUDIES

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(1) G.Chaix et al. Questionnaire-based Pet owner evaluation of gastrointestinal tolerance of a new high protein-low carbohydrate diet range in adult dogs. Intern J Appl Res Vet Med • Vol. 14, No. 3, 2016.

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	34%
OF ANIMAL ORIGIN	86%
LOW CARBOHYDRATE	25.5%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Lignocellulose, Hydrolysed pork and poultry proteins, Peas, Poultry Fats, Pea fiber, Linseed, Minerals, Dried (sugar) beet pulp, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Seaweed meal *(Ascophyllum nodosum)*, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	9
Protein	34
Animal to vegetal protein ratio (%)	86/14
Fat	13.5
Minerals	7.5
Crude cellulose	10.5
Total dietary fibre	16.5
NFE*	25.5
Starch	18
Calcium	1.3
Phosphorus	1
Ca/P ratio	1.3
Sodium	0.5
Omega-6	2.6
Omega-3	0.9

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	315
PCR (g/Mcal)***	108
Energy from protein (%)	37
Energy from fat (%)	36
Energy from NFE*(%)	27

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
Ascophyllum nodosum (%)	0.2
L-carnitine (mg/kg)	330

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)			
	Soft weight loss	Active-	Active=	Active+
1	32	35	40	45
2	50	55	65	70
3	66	75	80	90
4	80	90	100	110
5	93	105	115	125
6	105	120	130	145
7	116	130	145	160
8	127	145	160	175
9	137	155	170	190
10	147	165	185	200

These amounts are approximate and may vary depending on the dog's breed

* Nitrogen Free Extract
** Metabolisable energy
*** Calorie to protein ratio, calculated with NRC 2006

SENIOR NEUTERED SMALL & TOY

Approx. 10.5 x 6 mm

INDICATION

Complete diet for **neutered dogs** (or those with a tendency to be overweight):

- **Small breeds** (< 10 kg), **over 10 years old.**
- **Toy breeds** (< 5 kg), **over 12 years old.**

AVAILABLE FORMATS

1.5 kg, 3 kg, 7kg

This diet takes into account the modified nutritional requirements of neutered senior dogs. Its low energy, increased fiber, high protein, and low phosphorus content supports optimal body weight and renal health.

GLOBAL PREVENTIVE PROFILE

Weight & satiety control

The reduced energy content of the diet and adapted feeding rations limit calorie intake. The richness in both protein and fibre helps achieve satiety. The L-carnitine supplement helps fat metabolism and limits fat tissue buildup.

Optimal muscle mass

The high protein content promotes muscle mass.

Oral & dental health

The *Ascophyllum nodosum* supplement helps limit dental plaque and tartar formation, reduce halitosis, and contributes to ensure good oral and dental health.

Renal health

The reduced phosphorus content helps maintain a healthy renal function.

Mobility support

The high level of protein helps preserve muscle mass to support mobility. A blend of chondroprotective agents (natural chondroitin sulphate and glucosamine, added hyaluronic acid and egg shell membrane) helps maintain joint elasticity.

Additional Health Benefits

- Skin & Coat Support
- High Digestive Tolerance
- Urinary Health

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	32%
OF ANIMAL ORIGIN	87%
LOW CARBOHYDRATE	30%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Lignocellulose, Hydrolysed pork and poultry proteins, Peas, Poultry Fats, Pea fiber, Minerals, Linseed, Fish oil, Dried (sugar) beet pulp, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Seaweed meal *(Ascophyllum nodosum)*, Egg membrane, hyaluronic acid from fermentation, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

• Moisture	9
• Protein	32
• Animal to vegetal protein ratio (%)	87/13
• Fat	12
• Minerals	6.5
• Crude cellulose	10.5
• Total dietary fibre	16
• NFE*	30
• Starch	22
• Calcium	1.1
• Phosphorus	0.7
• Ca/P ratio	1.6
• Sodium	0.4
• Omega-6	2.1
• Omega-3	0.9
• EPA+DHA	0.3

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

• bentonite (%)	0.5
• heat-treated lactobacilli (mg/kg)	7
• *Ascophyllum nodosum (%)*	0.2
• L-carnitine (mg/kg)	330
• eggshell membrane (mg/kg)	300
• hyaluronic acid (mg/kg)	100

NUTRITIONAL VALUES

• ME** calculated (kcal/100g)***	311
• PCR (g/Mcal)***	103
• Energy from protein (%)	35
• Energy from fat (%)	32
• Energy from NFE*(%)	33

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Active-	Active=	Active+
1	35	35	40
2	50	55	65
3	70	75	85
4	80	90	100
5	95	105	115
6	105	120	130
7	120	130	145
8	130	145	160
9	140	155	170
10	150	170	185

These amounts are approximate and may vary depending on the dog's breed

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

VETERINARY HPM®

ADULT NEUTERED LARGE & MEDIUM

Approx. 17 x 9.5 mm

INDICATION

Complete diet for **neutered adult dogs** (or those with a tendency to be overweight):

- **Large breeds** (> 25 kg), **over 18 months old**.
- **Medium breeds** (11-25 kg), **over 12 months old.**

AVAILABLE FORMATS

100 g, 3 kg, 7 kg, 12 kg, 16 kg

This diet takes into account the modified nutritional requirements of neutered adult dogs. This formula helps maintain their optimal body weight with its low energy, increased fiber, and high protein content.

GLOBAL PREVENTIVE PROFILE

Weight & satiety control

The reduced energy content of the diet and adapted feeding rations limit calorie intake. The optimised energy balance (Protein:Fat:Carbohydrate) helps maintain an ideal body condition. The richness in both protein and fibre helps achieve satiety. The L-carnitine supplement helps fat metabolism and limits fat tissue buildup.

Optimal muscle mass

The high protein content promotes muscle mass.

Mobility support

The high protein content contributes to maintain strong muscles, in order to support mobility. Natural chondroitine sulphate and glucosamine help maintain joint elasticity.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotics) support the growth of the beneficial digestive flora and contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance of between omega-6 and omega-3 fatty acids contribute to the epidermal barrier function and improve the quality of sebaceous secretions to promote a healthy skin and shiny coat.

SCIENTIFICALLY PROVEN

DIGESTIVE TOLERANCE AFTER 1 MONTH (1)

85% DOGS WITH GOOD DIGESTIVE TOLERANCE

- FLATULENCE (74%)
- ODOR OF FAECES (73%)
- TEXTURE OF FAECES (97%)
- VOLUME OF FAECES (83%)

OUR STUDIES

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(1) G.Chaix et al. Questionnaire-based Pet owner evaluation of gastrointestinal tolerance of a new high protein-low carbohydrate diet range in adult dogs. Intern J Appl Res Vet Med • Vol. 14, No. 3, 2016.

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	34%
OF ANIMAL ORIGIN	86%
LOW CARBOHYDRATE	25.5%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Lignocellulose, Hydrolysed pork and poultry proteins, Peas, Poultry Fats, Pea fiber, Linseed, Minerals, Dried (sugar) beet pulp, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

• Moisture	9
• Protein	34
• Animal to vegetal protein ratio (%)	86/14
• Fat	13.5
• Minerals	7.5
• Crude cellulose	10.5
• Total dietary fibre	16.5
• NFE*	25.5
• Starch	18
• Calcium	1.3
• Phosphorus	1
• Ca/P ratio	1.3
• Sodium	0.5
• Omega-6	2.6
• Omega-3	0.9

NUTRITIONAL VALUES

• ME** calculated (kcal/100g)***	315
• PCR (g/Mcal)***	108
• Energy from protein (%)	37
• Energy from fat (%)	36
• Energy from NFE*(%)	27

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

• bentonite (%)	0.5
• heat-treated lactobacilli (mg/kg)	7
• L-carnitine (mg/kg)	330

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)			
	Soft weight loss	Active-	Active=	Active+
11	157	175	195	215
15	193	215	240	265
20	234	265	290	320
25	271	305	340	375
30	306	345	385	420
35	340	380	425	465
40	371	420	465	510
45	402	450	500	550
50	431	485	540	590
60	486	545	610	670
70	539	605	675	740
80	589	665	735	810

These amounts are approximate and may vary depending on the dog's breed

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

ADULT SENSITIVE NEUTERED LARGE & MEDIUM

Approx. 15 x 8.5 mm

INDICATION

Complete diet for **neutered adult dogs** (with digestive sensitivity):

- **Large breeds** (> 25 kg), **over 18 months old.**
- **Medium breeds** (11-25 kg), **over 12 months old.**

AVAILABLE FORMATS

3 kg, 12 kg

This diet is formulated to take into account the digestive sensitivity of some adult neutered dogs by providing specific ingredients supporting gut function.

GLOBAL PREVENTIVE PROFILE

Improved stools

Improves significantly the fecal consistency after only 7 days of exclusive feeding*.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotics) contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency. Yucca extract helps limit both fecal smell and flatulence frequency.

Weight & Satiety Control

The reduced energy content of the diet and adapted feeding rations limit calorie intake. The richness in both protein and fibre helps achieve satiety. The L-carnitine supplement helps fat metabolism and limits fat tissue buildup.

Optimal muscle mass

The high protein content promotes muscle mass.

Mobility support

The high protein content contributes to maintain strong muscles in order to support mobility. Natural chondroitine sulphate and glucosamine help maintain joint elasticity.

Additional Health Benefits

- Skin & Coat Support

*Internal data in 87 dogs with digestive sensitivity, 2017

CARNIVORE NUTRITION

	% AS FED
HIGH PROTEIN	29%
OF ANIMAL ORIGIN	85%
LOW CARBOHYDRATE	33%

COMPOSITION

Rice, Dehydrated pork and poultry proteins, Lignocellulose, Poultry Fats, Hydrolysed pork and poultry proteins, Minerals, Dried (sugar) beet pulp, Linseed, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, *Yucca schidigera*, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	9
Protein	29
Animal to vegetal protein ratio (%)	85/15
Fat	14
Minerals	7.5
Crude cellulose	7.5
Total dietary fibre	11.5
NFE*	33
Starch	26
Calcium	1.3
Phosphorus	1
Ca/P ratio	1.3
Sodium	0.4
Omega-6	2.8
Omega-3	0.7

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

bentonite (%)	0.8
heat-treated lactobacilli (mg/kg)	7
L-carnitine (mg/kg)	330
Yucca schidigera (%)	0.06

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	338
PCR (g/Mcal)***	86
Energy from protein (%)	30
Energy from fat (%)	36
Energy from NFE*(%)	34

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Active-	Active=	Active+
11	165	185	200
15	200	225	245
20	245	270	300
25	285	315	350
30	320	355	395
35	355	395	435
40	390	430	475
45	420	470	515
50	450	500	550
60	510	565	625
70	565	630	690

These amounts are approximate and may vary depending on the dog's breed

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

SENIOR NEUTERED LARGE & MEDIUM

Approx. 17 x 9.5 mm

INDICATION

Complete diet for **neutered dogs** (or those with a tendency to be overweight):

- **Large breeds** (> 25 kg), **over 6 years old.**
- **Medium breeds** (11-25 kg), **over 8 years old.**

AVAILABLE FORMATS

3 kg, 12 kg

This diet takes into account the modified nutritional requirements of neutered senior dogs. Its low energy, increased fiber, high protein, and low phosphorus content supports optimal body weight and renal health.

GLOBAL PREVENTIVE PROFILE

Weight & satiety control

The reduced energy content of the diet and adapted feeding rations limit calorie intake. The richness in both protein and fibre helps achieve satiety. The L-carnitine supplement helps fat metabolism and limits fat tissue buildup.

Optimal muscle mass

The high protein content promotes muscle mass.

Mobility support

The high level of protein helps preserve muscle mass to support mobility. A blend of chondroprotective agents (natural chondroitin sulphate and glucosamine, added hyaluronic acid and egg shell membrane) helps maintain joint elasticity.

Renal health

The reduced phosphorus content helps maintain a healthy renal function.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotics) support the growth of the beneficial digestive flora and contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency.

Additional Health Benefits

• Skin & Coat Support

CARNIVORE NUTRITION

	% AS FED
HIGH PROTEIN	32%
OF ANIMAL ORIGIN	87%
LOW CARBOHYDRATE	30%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Lignocellulose, Hydrolysed pork and poultry proteins, Peas, Poultry Fats, Pea fiber, Minerals, Dried (sugar) beet pulp, Linseed, Fish oil, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Egg membrane, hyaluronic acid from fermentation, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	9
Protein	32
Animal to vegetal protein ratio (%)	87/13
Fat	12
Minerals	6.5
Crude cellulose	10.5
Total dietary fibre	16
NFE*	30
Starch	22
Calcium	1.1
Phosphorus	0.7
Ca/P ratio	1.6
Sodium	0.4
Omega-6	2.1
Omega-3	0.9
EPA+DHA	0.3

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
L-carnitine (mg/kg)	330
eggshell membrane (mg/kg)	300
hyaluronic acid (mg/kg)	100

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	311
PCR (g/Mcal)***	103
Energy from protein (%)	35
Energy from fat (%)	32
Energy from NFE*(%)	33

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Active-	Active=	Active+
11	160	180	195
15	200	220	240
20	240	265	295
25	280	310	340
30	315	350	385
35	350	385	425
40	380	425	465
45	410	455	505
50	440	490	540
60	500	555	610
70	555	615	675

These amounts are approximate and may vary depending on the dog's breed

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

PUPPY LARGE & MEDIUM

Approx. 15.5 x 8.5 mm

This diet meets the nutritional requirements for healthy growth. It is formulated with high energy density, high protein content and a balanced mineral intake.

GLOBAL PREVENTIVE PROFILE

Harmonious growth

The high energy density and degree of digestibility provide a concentrated diet covering the intense requirements of the first growth stage of puppies L&M breeds. The high protein content, with balanced calcium and phosphorus levels, ensures healthy skeletal growth.

Immune support

Beta-glucans extracted from brewer's yeast cell wall helps to promote the development of the puppy's own immune system, to improve vaccine response and disease resistance.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotics) support the growth of the beneficial digestive flora and contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance of between omega-6 and omega-3 fatty acids contribute to the development of both the epidermal barrier function and coat production.

Brain development

DHA from fish oil contributes to the healthy development of the puppy's brain and cognitive function.

INDICATION

Complete diet for **Puppies**:

- **Large breeds** (adult weight > 25 kg), **up to 7 months old.**
- **Medium breeds** (adult weight 11-25 kg), **up to 6 months old.**

Complete diet for **bitches**:

- **Pregnant/Lactating medium** and **large breed bitches.**

AVAILABLE FORMATS

100 g, 3 kg, 7 kg, 12 kg

SCIENTIFICALLY PROVEN

IMMUNE SUPPORT (1)

3 WEEKS AFTER COMPLETE VACCINATION — ADDITION OF BETAGLUCAN INCREASES EFFICIENTLY THE HUMORAL RESPONSE

DIGESTIVE TOLERANCE AFTER 1 MONTH (2)

80% PUPPIES WITH GOOD DIGESTIVE TOLERANCE — FLATULENCE (75%); ODOR OF FAECES (73%); TEXTURE OF FAECES (97%); VOLUME OF FAECES (76%)

OUR STUDIES

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(1) I. Leriche et al. Immunostimulatory effect of beta-1,3/1,6-glucan supplementation in a dry diet after vaccination in puppies. SEVC Congress 2015.
(2) G. Chaix et al. Questionnaire-based pet owner evaluation of gastrointestinal tolerance of a new high protein low carbohydrate diet range in growing dogs. Intern J Appl Res Vet Med Vol. 14, No.2, 2016

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	35%
OF ANIMAL ORIGIN	90%
LOW CARBOHYDRATE	23.5%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Poultry Fats, Peas, Lignocellulose, Hydrolysed pork and poultry proteins, Minerals, Dried (sugar) beet pulp, Fish oil, Linseed, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

Moisture	9
Protein	35
Animal to vegetal protein ratio (%)	90/10
Fat	21
Minerals	7.5
Crude cellulose	4
Total dietary fibre	7.5
NFE*	23.5
Starch	19
Calcium	1.3
Phosphorus	1
Ca/P ratio	1.3
Sodium	0.5
Omega-6	4.2
Omega-3	1
EPA+DHA	0.3

NUTRITIONAL VALUES

ME** calculated (kcal/100g)***	396
PCR (g/Mcal)***	88
Energy from protein (%)	32
Energy from fat (%)	47
Energy from NFE*(%)	21

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

bentonite (%)	0.5
heat-treated lactobacilli (mg/kg)	7
beta-glucans (mg/kg)	500
L-carnitine (mg/kg)	330

FEEDING GUIDELINES

MEDIUM BREED PUPPY			
Body Weight (kg)	Daily ration (g/day)		
	Age (months)		
	2	3	4-6
4	200	175	
5	230	200	
6	260	230	195
8	315	275	235
10	365	320	275
12			310
15			360

LARGE BREED PUPPY			
	2-3	4-5	6-7
5	230		
6	260		
7	290		
8	315		
10	365	320	
12	415	360	
15	480	420	360
20	580	510	435
25		590	505
30		665	570
35		740	635
40		805	690

These amounts are indicative and may vary depending on the breed and activity level of the puppy.

JUNIOR MEDIUM

Approx. 15.5 x 8.5 mm

INDICATION

Complete diet for **young dogs:**
• **Medium breeds**
(adult weight 11-25 kg),
after peak growth, that is from
7 to 12 months.

AVAILABLE FORMATS

3 kg, 12 kg

This diet is formulated to meet the nutritional requirements associated with the end of growth, providing an adapted energy density and a high protein content.

GLOBAL PREVENTIVE PROFILE

Harmonious growth

The high protein content contributes to muscle development that intensifies after the growth peak.

Controlled weight gain

The adapted energy density, with adapted feeding rations, meets the requirements of the end of growth period of medium breed puppies, by helping prevent excessive weight gain and ostearticular troubles.

Muscle development

The high protein content promotes the development of muscle mass.

Healthy Joint Growth

The high protein content contributes to the development of a strong and healthy musculo-skeletal system to support mobility.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotics) support the growth of the beneficial digestive flora and contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency.

Additional Health Benefits

• Skin & Coat Support
• Urinary Health

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	35%
OF ANIMAL ORIGIN	90%
LOW CARBOHYDRATE	25%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Poultry Fats, Peas, Lignocellulose, Hydrolysed pork and poultry proteins, Minerals, Dried (sugar) beet pulp, Fish oil, Linseed, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

• Moisture	9
• Protein	35
• Animal to vegetal protein ratio (%)	90/10
• Fat	19
• Minerals	7.5
• Crude cellulose	4.5
• Total dietary fibre	7.5
• NFE*	25
• Starch	20
• Calcium	1.3
• Phosphorus	1
• Ca/P ratio	1.3
• Sodium	0.5
• Omega-6	3.7
• Omega-3	1
• EPA+DHA	0.3

NUTRITIONAL VALUES

• ME** calculated (kcal/100g)***	384
• PCR (g/Mcal)***	91
• Energy from protein (%)	33
• Energy from fat (%)	43
• Energy from NFE*(%)	24

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

• bentonite (%)	0.5
• heat-treated lactobacilli (mg/kg)	7
• L-carnitine (mg/kg)	330

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)			
	Age (months)			
	7	8	9-10	11- 12
8	245	220	195	
10	285	255	225	
12	320	290	255	215
15	370	335	295	245
17	405	365	325	270
20			360	300
22			385	320
24				340
25				350

These amounts are approximate and may vary depending on the breed and the young dog activity level.

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

VETERINARY HPM®

JUNIOR LARGE

Approx. 15.5 x 8.5 mm

INDICATION

Complete diet for **young dogs:**
• **Large breeds**
(adult weight > 25 kg), after the growth peak, that is from **8 to 18 months.**

AVAILABLE FORMATS

3 kg, 12 kg

This diet is formulated to meet the nutritional requirements associated with the end of growth, providing a reduced energy density and a high protein content.

GLOBAL PREVENTIVE PROFILE

Harmonious growth

The high protein content contributes to muscle development that intensifies after the growth peak.

Controlled weight gain

The reduced energy density, with adapted feeding rations, meets the requirements of the end of growth period of large breed puppies, by helping prevent excessive weight gain and osteoarticular troubles.

Healthy Joint Growth

Natural chondroitine sulphate and glucosamine help maintain joint elasticity.

Muscle development

The high protein content contributes to the development of a strong and healthy musculo-skeletal system to support mobility.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotics) support the growth of the beneficial digestive flora and contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency.

Additional Health Benefits

• Skin & Coat Support

SCIENTIFICALLY PROVEN

DIGESTIVE TOLERANCE AFTER 1 MONTH (1)

77% YOUNGS DOGS WITH GOOD DIGESTIVE TOLERANCE

- FLATULENCE (67%)
- ODOR OF FAECES (69%)
- TEXTURE OF FAECES (93%)
- VOLUME OF FAECES (77%)

OUR STUDIES

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(1) G. Chaix et al. Questionnaire-based pet owner evaluation of gastrointestinal tolerance of a new high protein low carbohydrate diet range in growing dogs. Intern J Appl Res Vet Med Vol. 14, No.2, 2016

CARNIVORE NUTRITION

	% AS FED
HIGH PROTEIN	35%
OF ANIMAL ORIGIN	87%
LOW CARBOHYDRATE	28%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Peas, Poultry Fats, Lignocellulose, Hydrolysed pork and poultry proteins, Dried (sugar) beet pulp, Minerals, Fish oil, Linseed, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

• Moisture	9
• Protein	35
• Animal to vegetal protein ratio (%)	87/13
• Fat	15
• Minerals	7.5
• Crude cellulose	5.5
• Total dietary fibre	9
• NFE*	28
• Starch	22
• Calcium	1.1
• Phosphorus	0.9
• Ca/P ratio	1.2
• Sodium	0.5
• Omega-6	2.9
• Omega-3	0.9
• EPA+DHA	0.3

NUTRITIONAL VALUES

• ME** calculated (kcal/100g)***	358
• PCR (g/Mcal)***	98
• Energy from protein (%)	35
• Energy from fat (%)	37
• Energy from NFE*(%)	28

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

• bentonite (%)	0.5
• heat-treated lactobacilli (mg/kg)	7
• L-carnitine (mg/kg)	330

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)				
	Age (months)				
	8	9-11	12-14	15-16	17-18
14	380				
15	400	360	320		
20	480	435	385	355	
25	560	505	450	410	375
30	630	570	505	465	420
35	700	630	560	515	465
40	765	690	610	560	510
45	830	745	660	605	550
50		800	710	650	590
55			755	695	630
60			805	735	670
70				815	740

These amounts are approximate and may vary depending on the breed and the young dog activity level.

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

ADULT LARGE & MEDIUM

Approx. 17 x 9.5 mm

INDICATION

Complete diet for **adult dogs:**

- **Large breeds** (> 25 kg), over **18 months old.**
- **Medium breeds** (11-25 kg), **over 12 months old.**

AVAILABLE FORMATS

100 g, 3 kg, 7 kg, 12 kg, 16 kg

is diet meets the nutritional requirements of entire adult dogs. It is formulated with an optimised energy balance between proteins (high content), fats and carbohydrates.

GLOBAL PREVENTIVE PROFILE

Optimal weight

The optimised energy balance (Protein:Fat: Carbohydrate) helps maintain an ideal body condition.

Optimal muscle mass

The high protein content promotes muscle mass.

Mobility Support

The high protein content contributes to maintain strong muscles in order to support mobility. Natural chondroitin sulphate and glucosamine help maintain joint elasticity.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotics) support the growth of the beneficial digestive flora and contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance of between omega-6 and omega-3 fatty acids contribute to the epidermal barrier function and improve the quality of sebaceous secretions to promote a healthy skin and shiny coat.

Additional Health Benefits

• Urinary Health

SCIENTIFICALLY PROVEN

DIGESTIVE TOLERANCE AFTER 1 MONTH (1)

82% DOGS WITH GOOD DIGESTIVE TOLERANCE
FLATULENCE (74%)
ODOR OF FAECES (73%)
TEXTURE OF FAECES (97%)
VOLUME OF FAECES (83%)

Adapted to digestive sensitivity:

SIGNIFICANT IMPROVEMENT OF ALL DIGESTIVE PARAMETERS IN ONLY 1 MONTH (2)

60% OF IMPROVED DOGS WITH DIGESTIVE SENSITIVITY

RENAL SAFETY

40 MONTHS FOLLOW UP
NO NEGATIVE IMPACT ON THE RENAL BIOMARKERS (3)

OUR STUDIES

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Page 96

(1) G.Chaix et al. Questionnaire-based Pet owner evaluation of gastrointestinal tolerance of a new high protein-low carbohydrate diet range in adult dogs. Intern J Appl Res Vet Med • Vol. 14, No. 3, 2016.
(2) I. Leriche et al. Efficacy and tolerance of two low-carbohydrate diets in large adult dogs with digestive sensitivity: a randomized, cross-over, blinded evaluation. J Vet Med Surg 2017; 1(4): 1-10.
(3) I Leriche, A Franchi, C Bouchez. Forty month-follow up of renal function in dogs fed a high-protein diet. ESVCN Congress 2020.

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	34%
OF ANIMAL ORIGIN	85%
LOW CARBOHYDRATE	27.5%

COMPOSITION

Dehydrated poultry proteins, Rice, Poultry Fats, Peas, Hydrolysed pork and poultry proteins, Lignocellulose, Minerals, Dried (sugar) beet pulp, Linseed, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

• Moisture	9
• Protein	34
• Animal to vegetal protein ratio (%)	85/15
• Fat	17
• Minerals	7.5
• Crude cellulose	5
• Total dietary fibre	8.5
• NFE*	27.5
• Starch	21
• Calcium	1.3
• Phosphorus	1
• Ca/P ratio	1.3
• Sodium	0.5
• Omega-6	3.7
• Omega-3	0.8

NUTRITIONAL VALUES

• ME** calculated (kcal/100g)***	370
• PCR (g/Mcal)***	92
• Energy from protein (%)	33
• Energy from fat (%)	40
• Energy from NFE*(%)	27

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

• bentonite (%)	0.5
• heat-treated lactobacilli (mg/kg)	7
• L-carnitine (mg/kg)	330

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Active-	Active=	Active+
11	190	210	230
15	230	255	280
20	280	310	340
25	325	360	395
30	365	410	450
35	405	450	495
40	445	495	545
45	480	535	590
50	515	575	630
60	580	645	710
70	645	715	790

These amounts are approximate and may vary depending on the dog's breed.

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

VETERINARY HPM®

ADULT SENSITIVE LARGE & MEDIUM

Approx. 15 x 8.5 mm

INDICATION

Complete diet for **adult dogs** (with digestive sensitivity):

- **Large breeds** (> 25 kg), **over 18 months old**.
- **Medium breeds** (11-25 kg), **over 12 months old**.

AVAILABLE FORMATS

3 kg, 12 kg

This diet is formulated to take into account the digestive sensitivity of some adult dogs, by providing specific ingredients supporting gut function.

GLOBAL PREVENTIVE PROFILE

Improved stools

Improves significantly the fecal consistency after only 7 days of exclusive feeding*.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotics) contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency. Yucca extract helps limit both fecal smell and flatulence frequency.

Optimal weight

The optimised energy balance (Protein:Fat: Carbohydrate) helps maintain an ideal body condition.

Mobility Support

The high protein content contributes to maintain strong muscles in order to support mobility. Natural chondroitine sulphate and glucosamine help maintain joint elasticity.

Skin & Coat Support

The high level of animal protein, source of sulfur-containing amino acids, and the balance of between omega-6 and omega-3 fatty acids contribute to the epidermal barrier function and improve the quality of sebaceous secretions to promote a healthy skin and shiny coat.

Additional Health Benefits

• Optimal muscle mass

*Leriche I et al. Efficacy and tolerance of two low carbohydrate diets in large adult dogs with digestive sensitivity: a randomised cross-over blinded evaluation. J Vet Med Surg 2017; 1(4): 1-10

SCIENTIFICALLY PROVEN

Adapted to digestive sensitivity:
SIGNIFICANT IMPROVEMENT OF ALL DIGESTIVE PARAMETERS IN ONLY 1 MONTH (1)

80% OF IMPROVED DOGS

- FLATULENCE (61%)
- ODOR OF FAECES (87%)
- TEXTURE OF FAECES (93%)
- VOLUME OF FAECES (76%)

OUR STUDIES

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(1) I. Leriche et al. Efficacy and tolerance of two low-carbohydrate diets in large adult dogs with digestive sensitivity: a randomized, cross-over, blinded evaluation. J Vet Med Surg 2017; 1(4): 1-10.

CARNIVORE NUTRITION	% AS FED
HIGH PROTEIN	29%
OF ANIMAL ORIGIN	86%
LOW CARBOHYDRATE	32%

COMPOSITION

Rice, Dehydrated pork and poultry proteins, Poultry Fats, Lignocellulose, Hydrolysed pork and poultry proteins, Dried (sugar) beet pulp, Minerals, Linseed, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, *Yucca schidigera*, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

• Moisture	9
• Protein	29
• Animal to vegetal protein ratio (%)	86/14
• Fat	18
• Minerals	7.5
• Crude cellulose	4.5
• Total dietary fibre	8
• NFE*	32
• Starch	26
• Calcium	1.3
• Phosphorus	1
• Ca/P ratio	1.3
• Sodium	0.4
• Omega-6	3.5
• Omega-3	0.7

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

• bentonite (%)	0.8
• heat-treated lactobacilli (mg/kg)	7
• L-carnitine (mg/kg)	330
• *Yucca schidigera (%)*	0.06

NUTRITIONAL VALUES

• ME** calculated (kcal/100g)***	377
• PCR (g/Mcal)***	77
• Energy from protein (%)	28
• Energy from fat (%)	42
• Energy from NFE*(%)	30

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Active-	Active=	Active+
11	185	205	225
15	225	250	275
20	275	305	335
25	320	355	390
30	360	400	440
35	400	445	490
40	435	485	535
45	470	525	575
50	505	560	620
60	570	635	700
70	635	705	775

These amounts are approximate and may vary depending on the dog's breed.

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

SENIOR LARGE & MEDIUM

Approx. 17 x 9.5 mm

INDICATION

Complete diet for **entire dogs:**

- **Large** breeds (> 25 kg), **over 6 years old.**
- **Medium breeds** (11-25 kg), **over 8 years old.**

AVAILABLE FORMATS

3 kg, 12 kg

This diet meets the nutritional requirements of entire senior dogs, providing a reduced energy and phosphorus content.

GLOBAL PREVENTIVE PROFILE

Weight Control

The reduced energy content helps limit the risk of excessive weight gain due to decreased activity. The L-carnitine supplement helps fat metabolism and limits fat tissue buildup.

Mobility Support

The high level of protein helps preserve muscle mass to support mobility. A blend of chondroprotective agents (natural chondroitin sulphate and glucosamine, added hyaluronic acid and egg shell membrane) helps maintain joint elasticity.

Muscle support

The high protein content promotes muscle mass.

Renal health

The reduced phosphorus content helps maintain a healthy renal function.

High Digestive Tolerance

Fructo-oligosaccharides (prebiotics) and lactobacilli (postbiotics) support the growth of the beneficial digestive flora and contribute to microbiota integrity. Psyllium fibre regulates the digestive transit and contributes to produce well-formed stools. Bentonite protects the digestive mucosa and ensures normal stool odour and consistency.

Additional Health Benefits

- Skin & Coat Support
- Urinary Health

CARNIVORE NUTRITION

	% AS FED
HIGH PROTEIN	32%
OF ANIMAL ORIGIN	87%
LOW CARBOHYDRATE	29%

COMPOSITION

Dehydrated pork and poultry proteins, Rice, Lignocellulose, Hydrolysed pork and poultry proteins, Poultry Fats, Peas, Pea Fiber, Minerals, Dried (sugar) beet pulp, Linseed, Fish oil, Fructo-oligosaccharides, Psyllium fibre *(Plantago (L.) spp.)*, Inactivated brewer's yeast, Egg membrane, hyaluronic acid from fermentation, Inactivated *Lactobacillus helveticus*.

ANALYTICAL CONSTITUENTS (in % of crude matter)

• Moisture	9
• Protein	32
• Animal to vegetal protein ratio (%)	87/13
• Fat	14
• Minerals	6.5
• Crude cellulose	9.5
• Total dietary fibre	15.5
• NFE*	29
• Starch	22
• Calcium	1.1
• Phosphorus	0.7
• Ca/P ratio	1.6
• Sodium	0.4
• Omega-6	2.6
• Omega-3	0.9
• EPA+DHA	0.3

NUTRITIONAL VALUES

• ME** calculated (kcal/100g)***	327
• PCR (g/Mcal)***	98
• Energy from protein (%)	34
• Energy from fat (%)	36
• Energy from NFE*(%)	30

SPECIFIC FUNCTIONAL INGREDIENTS/ADDITIVES

• bentonite (%)	0.5
• heat-treated lactobacilli (mg/kg)	7
• L-carnitine (mg/kg)	330
• Eggshell membrane (mg/kg)	300
• hyaluronic acid (mg/kg)	100

FEEDING GUIDELINES

Body Weight (kg)	Daily ration (g/day)		
	Active-	Active=	Active+
11	190	215	235
15	235	260	290
20	285	315	350
25	330	365	405
30	375	415	455
35	415	460	505
40	455	505	555
45	490	545	600
50	525	585	640
60	595	660	725
70	655	730	805

These amounts are approximate and may vary depending on the dog's breed.

* Nitrogen Free Extract
** Metabolisable energy
*** Protein to calorie ratio, calculated with NRC 2006

NUTRITIONAL INFORMATION

VETERINARY HPM®

AS FED	SMALL & TOY			NEUTERED				
	PUPPY	ADULT	SENIOR	ADULT SMALL & TOY	SENIOR SMALL & TOY	ADULT LARGE & MEDIUM	SENSITIVE DIGEST	SENIOR LARGE & MEDIUM
Analytical constituents (%)								
Moisture	9	9	9	9	9	9	9	9
Protein	35	34	32	34	32	34	29	32
Animal to vegetal protein ratio	89/11	85/15	87/13	86/14	87/13	86/14	85/15	87/13
Fat	21	17	14	13.5	12	13.5	14	12
Minerals	7.5	7.5	6.5	7.5	6.5	7.5	7.5	6.5
Crude cellulose	4	5	9.5	10.5	10.5	10.5	7.5	10.5
Total dietary fibre	7.5	8.5	15.5	16.5	16	16.5	11.5	16
Nitrogen Free Extract (NFE)	23.5	27.5	29	25.5	30	25.5	33	30
Starch	19	21	22	18	22	18	26	22
Calcium	1.3	1.3	1.1	1.3	1.1	1.3	1.3	1.1
Phosphorus	1	1	0.7	1	0.7	1	1	0.7
Calcium to phosphorus ratio	1.3	1.3	1.6	1.3	1.6	1.3	1.3	1.6
Sodium	0.5	0.5	0.4	0.5	0.4	0.5	0.4	0.4
Potassium	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Magnesium	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Omega-6	4	3.4	2.6	2.6	2.1	2.6	2.8	2.1
Omega-3	1.2	0.8	0.9	0.9	0.9	0.9	0.7	0.9
Omega-6 / omega-3	3.3	4.3	2.9	2.9	2.3	2.9	4.0	2.3
EPA + DHA	0.3	0	0.3	0	0.3	0	0	0.3
Nutritional Values								
Calcuted metabolisable energy NRC2006 (kcal/100g)	396	370	327	315	311	315	338	311
In vivo measured ME (kcal/100g)	387	361	333	309	333	309	347	333
Apparent digestibility coeff. for protein (%)	84.0	84.0	84.0	82.0	84,0	82.0	82.5	84.0
Apparent digestibility coeff. for fat (%)	96.5	96,0	95.5	94.5	95,5	94.5	96.5	95.5
PCR (g/Mcal) (NRC2006)	88	92	98	108	103	108	86	103
Energy from protein (%)	32	33	34	37	35	37	30	35
Energy from fat (%)	47	40	36	36	32	36	36	32
Energy from NFE (%)	21	27	30	27	33	27	34	33
Urinary pH	6.5 - 6.9	6.3 - 6.7	6.5 - 6.9	6.3 - 6.7	6.5 - 6.9	6.3 - 6.7	6.3 - 6.7	6.5 - 6.9
Struvite RSS	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Ca oxalate RSS	<12	<12	<12	<12	<12	<12	<12	<12

AS FED	SMALL & TOY			NEUTERED				
	PUPPY	ADULT	SENIOR	ADULT SMALL & TOY	SENIOR SMALL & TOY	ADULT LARGE & MEDIUM	SENSITIVE DIGEST	SENIOR LARGE & MEDIUM
Added vitamins								
Vitamin A (IU/kg)	11000	11000	11000	11000	11000	11000	11000	11000
Vitamin D3 (IU/kg)	1100	1100	1100	1100	1100	1100	1100	1100
Vitamin E (mg/kg)	590	590	590	590	590	590	590	590
Vitamin B1 thiamine) (mg/kg)	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Vitamin B2 (riboflavine) (mg/kg)	11	11	11	11	11	11	11	11
Vitamin B3 (PP, niacine, nicotinic ac) (mg/kg)	30	30	30	30	30	30	30	30
Vitamin B5 (pantothenic ac) (mg/kg)	26	26	26	26	26	26	26	26
Vitamin B6 (pyridoxine) (mg/kg)	3	3	3	3	3	3	3	3
Vitamin B9 (folic ac) (mg/kg)	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
Vitamin B12 (cobalamine) (mg/kg)	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062
Choline (mg/kg)	3000	3000	3000	3000	3000	3000	3000	3000
Taurine (mg/kg)	1500	1500	1500	1500	1500	1500	1500	1500
Total trace elements								
Copper (mg/kg)	18	18	18	18	18	18	18	18
Iron (mg/kg)	260	260	220	260	220	260	260	220
Iodine (mg/kg)	3.0	3.0	3.0	3.0	3.0	2.6	2	2.6
Manganese (mg/kg)	26	26	26	26	26	26	26	26
Selenium (mg/kg)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Zinc (mg/kg)	160	160	150	160	150	160	150	150
Specific functional ingredients / additives								
Bentonite (%)	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.5
Heat-treated lactobacilli (mg/kg)	7	7	7	7	7	7	7	7
Beta-glucans (mg/kg)	500							
Ascophyllum nodosum (%)	0.2	0.2	0.2	0.2	0.2			
L-carnitine (mg/kg)	330	330	330	330	330	330	330	330
Yucca schidigera (%)							0.06	
Eggshell membrane (mg/kg)			300		300			300
Hyaluronic acid (mg/kg)			100		100			100

NUTRITIONAL INFORMATION

VETERINARY HPM®

AS FED	LARGE & MEDIUM					
	PUPPY	JUNIOR MEDIUM	JUNIOR LARGE	ADULT	SENSITIVE DIGEST	SENIOR
Analytical constituents (%)						
Moisture	9	9	9	9	9	9
Protein	35	35	35	34	29	32
Animal to vegetal protein ratio	90/10	90/10	87/13	85/15	86/14	87/13
Fat	21	19	15	17	18	14
Minerals	7.5	7.5	7.5	7.5	7.5	6.5
Crude cellulose	4	4.5	5.5	5	4.5	9.5
Total dietary fibre	7.5	7.5	9	8.5	8	15.5
Nitrogen Free Extract (NFE)	23.5	25	28	27.5	32	29
Starch	19	20	22	21	26	22
Calcium	1.3	1.3	1.1	1.3	1.3	1.1
Phosphorus	1	1	0.9	1	1	0.7
Calcium to phosphorus ratio	1.3	1.3	1.2	1.3	1.3	1.6
Sodium	0.5	0.5	0.5	0.5	0.4	0.4
Potassium	0.7	0.7	0.7	0.7	0.7	0.7
Magnesium	0.1	0.1	0.1	0.1	0.1	0.1
Omega-6	4.2	3.7	2.9	3.7	3.5	2.6
Omega-3	1	1	0.9	0.8	0.7	0.9
Omega-6 / omega-3	4.2	3.7	3.2	4.6	5.0	2.9
EPA + DHA	0.3	0.3	0.3	0	0	0.3
Nutritional Values						
Calcuted metabolisable energy NRC2006 (kcal/100g)	396	384	358	370	377	327
In vivo measured ME (kcal/100g)	387	387	351	361	378	333
Apparent digestibility coeff. for protein (%)	84.0	84.0	82.0	84.0	83.5	84.0
Apparent digestibility coeff. for fat (%)	96.5	96.5	96.0	96.0	96.5	95.5
PCR (g/Mcal) (NRC2006)	88	91	98	92	77	98
Energy from protein (%)	32	33	35	33	28	34
Energy from fat (%)	47	43	37	40	42	36
Energy from NFE (%)	21	24	28	27	30	30
Urinary pH	6.5 - 6.9	6.3 - 6.7	6.3 - 6.7	6.3 - 6.7	6.3 - 6,7	6.5 - 6.9
Struvite RSS	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Ca oxalate RSS	<12	<12	<12	<12	<12	<12

AS FED	LARGE & MEDIUM					
	PUPPY	JUNIOR MEDIUM	JUNIOR LARGE	ADULT	SENSITIVE DIGEST	SENIOR
Added vitamins						
Vitamin A (IU/kg)	11000	11000	11000	11000	11000	11000
Vitamin D3 (IU/kg)	1100	1100	1100	1100	1100	1100
Vitamin E (mg/kg)	590	590	590	590	590	590
Vitamin B1 thiamine) (mg/kg)	3.8	3.8	3.8	3.8	3.8	3.8
Vitamin B2 (riboflavine) (mg/kg)	11	11	11	11	11	11
Vitamin B3 (PP. niacine. nicotinic ac) (mg/kg)	30	30	30	30	30	30
Vitamin B5 (pantothenic ac) (mg/kg)	26	26	26	26	26	26
Vitamin B6 (pyridoxine) (mg/kg)	3	3	3	3	3	3
Vitamin B9 (folic ac) (mg/kg)	0.48	0.48	0.48	0.48	0.48	0.48
Vitamin B12 (cobalamine) (mg/kg)	0.062	0.062	0.062	0.062	0.062	0.062
Choline (mg/kg)	3000	3000	3000	3000	3000	3000
Taurine (mg/kg)	1500	1500	1500	1500	1500	1500
Total trace elements						
Copper (mg/kg)	18	18	18	18	18	18
Iron (mg/kg)	260	260	260	260	260	220
Iodine (mg/kg)	2.6	2.6	2.6	2.6	2	2.6
Manganese (mg/kg)	26	26	26	26	26	26
Selenium (mg/kg)	0.4	0.4	0.4	0.4	0.4	0.4
Zinc (mg/kg)	160	160	160	160	150	150
Specific functional ingredients / additives						
Bentonite (%)	0.5	0.5	0.5	0.5	0.8	0.5
Heat-treated lactobacilli (mg/kg)	7	7	7	7	7	7
Beta-glucans (mg/kg)	500					
L-carnitine (mg/kg)	330	330	330	330	330	330
Yucca schidigera (%)					0.06	
Eggshell membrane (mg/kg)						300
Hyaluronic acid (mg/kg)						100

NUTRITIONAL INFORMATION

VETERINARY HPM®

	SMALL & TOY			NEUTERED				
ON DRY MATTER (%)	PUPPY	ADULT	SENIOR	ADULT SMALL & TOY	SENIOR SMALL & TOY	ADULT LARGE & MEDIUM	SENSITIVE DIGEST	SENIOR LARGE & MEDIUM
Protein	38,5	37,4	35,2	37,4	35,2	37,4	31,9	35,2
Fat	23,1	18,7	15,4	14,8	13,2	14,8	15,4	13,2
Minerals	8,2	8,2	7,1	8,2	7,1	8,2	8,2	7,1
Crude cellulose	4,4	5,5	10,4	11,5	11,5	11,5	8,2	11,5
Total dietary fibre	8,2	9,3	17,0	18,1	17,6	18,1	12,6	17,6
Nitrogen Free Extract (NFE)	25,8	30,2	31,9	28,0	33,0	28,0	36,3	33,0
Starch	20,9	23,1	24,2	19,8	24,2	19,8	28,6	24,2
Calcium	1,4	1,4	1,2	1,4	1,2	1,4	1,4	1,2
Phosphorus	1,1	1,1	0,8	1,1	0,8	1,1	1,1	0,8
Calcium to phosphorus ratio	1,3	1,3	1,6	1,3	1,6	1,3	1,3	1,6
Sodium	0,5	0,5	0,4	0,5	0,4	0,5	0,4	0,4
Potassium	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8
Magnesium	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Omega-6	4,4	3,7	2,9	2,9	2,3	2,9	3,1	2,3
Omega-3	1,3	0,9	1,0	1,0	1,0	1,0	0,8	1,0
Calcuted metabolisable energy (NRC 2006) (kcal/100g)	435	407	359	346	342	346	371	342
ON 1000 kcal (g)								
Protein	88,4	91,9	97,9	107,9	102,9	107,9	85,8	102,9
Fat	53,0	45,9	42,8	42,9	38,6	42,9	41,4	38,6
Minerals	18,9	20,3	19,9	23,8	20,9	23,8	22,2	20,9
Crude cellulose	10,1	13,5	29,1	33,3	33,8	33,3	22,2	33,8
Total dietary fibre	18,9	23,0	47,4	52,4	51,4	52,4	34,0	51,4
Nitrogen Free Extract (NFE)	59,3	74,3	88,7	81,0	96,5	81,0	97,6	96,5
Starch	48,0	56,8	67,3	57,1	70,7	57,1	76,9	70,7
Calcium	3,3	3,5	3,4	4,1	3,5	4,1	3,8	3,5
Phosphorus	2,5	2,7	2,1	3,2	2,3	3,2	3,0	2,3
Calcium to phosphorus ratio	1,3	1,3	1,6	1,3	1,6	1,3	1,3	1,6
Sodium	1,3	1,4	1,2	1,6	1,3	1,6	1,2	1,3
Potassium	1,8	1,9	2,1	2,2	2,3	2,2	2,1	2,3
Magnesium	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3
Omega-6	10,1	9,2	8,0	8,3	6,8	8,3	8,3	6,8
Omega-3	3,0	2,2	2,8	2,9	2,9	2,9	2,1	2,9

	LARGE & MEDIUM					
ON DRY MATTER (%)	**PUPPY**	**JUNIOR MEDIUM**	**JUNIOR LARGE**	**ADULT**	**SENSITIVE DIGEST**	**SENIOR**
Protein	38.5	38.5	38.5	37.4	31.9	35.2
Fat	23.1	20.9	16.5	18.7	19.8	15.4
Minerals	8.2	8.2	8.2	8.2	8.2	7.1
Crude cellulose	4.4	4.9	6.0	5.5	4.9	10.4
Total dietary fibre	8.2	8.2	9.9	9.3	8.8	17.0
Nitrogen Free Extract (NFE)	25.8	27.5	30.8	30.2	35.2	31.9
Starch	20.9	22.0	24.2	23.1	28.6	24.2
Calcium	1.4	1.4	1.2	1.4	1.4	1.2
Phosphorus	1.1	1.1	1.0	1.1	1.1	0.8
Calcium to phosphorus ratio	1.3	1.3	1.2	1.3	1.3	1.6
Sodium	0.5	0.5	0.5	0.5	0.4	0.4
Potassium	0.8	0.8	0.8	0.8	0.8	0.8
Magnesium	0.1	0.1	0.1	0.1	0.1	0.1
Omega-6	4.6	4.1	3.2	4.1	3.8	2.9
Omega-3	1.1	1.1	1.0	0.9	0.8	1.0
Calculated metabolisable energy (NRC 2006) (kcal/100g)	435	422	393	407	414	359
ON 1000 kcal (g)						
Protein	88.4	91.4	97.8	91.9	76.9	97.9
Fat	53.0	49.6	41.9	45.9	47.7	42.8
Minerals	18.9	19.6	20.9	20.3	19.9	19.9
Crude cellulose	10.1	11.7	15.4	13.5	11.9	29.1
Total dietary fibre	18.9	19.6	25.1	23.0	21.2	47.4
Nitrogen Free Extract (NFE)	59.3	65.3	78.2	74.3	84.9	88.7
Starch	48.0	52.2	61.5	56.8	69.0	67.3
Calcium	3.3	3.4	3.1	3.5	3.4	3.4
Phosphorus	2.5	2.6	2.5	2.7	2.7	2.1
Calcium to phosphorus ratio	1.3	1.3	1.2	1.3	1.3	1.6
Sodium	1.3	1.3	1.4	1.4	1.1	1.2
Potassium	1.8	1.8	2.0	1.9	1.9	2.1
Magnesium	0.3	0.3	0.3	0.3	0.3	0.3
Omega-6	10.6	9.7	8.1	10.0	9.3	8.0
Omega-3	2.5	2.6	2.5	2.2	1.9	2.8

FEEDING TABLES

SMALL & TOY: GESTATION & LACTATION

	DAILY RATION (g/day)			
	PUPPY SMALL & TOY			
	GESTATION			LACTATION
BW (kg)	WEEKS 1-5	WEEKS 6-7	WEEKS 8-9	
1	40	45	60	120
2	65	70	95	190
3	80	90	125	245
4	100	110	150	300
5	115	125	175	345
6	130	145	195	390
7	145	160	215	435
8	160	175	235	475
9	170	190	255	510
10	185	200	275	550

These are suggested quantities and may vary depending on the dog's breed.
During gestation, the weight is the one at the beginning of gestation.
During lactation, the weight is the lactating bitch's real weight.
During lactation, the bitch may be fed ad libitum.

SMALL & TOY: GROWTH

	DAILY RATION (g/day)					
	PUPPY SMALL & TOY					
BW (kg)	2 MONTHS	3 MONTHS	4-6 MONTHS	7 MONTHS	8-9 MONTHS	10 MONTHS
0.5	50	45	35	35	30	25
1	80	70	60	55	45	40
1.5	105	90	75	70	60	50
2	125	110	95	85	75	65
2.5	145	125	110	100	85	75
3	165	145	125	110	100	80
3.5	180	160	135	125	110	90
4	200	175	150	135	120	100
4.5	215	190	160	145	130	105
5	230	200	175	155	140	115
5.5	245	215	185	165	145	125
6	260	230	195	175	155	130
6.5	275	240	205	185	165	135
7	290	250	215	195	175	145
7.5	300	265	225	205	180	150
8	315	275	235	215	190	160
8.5	330	285	245	220	195	165
9	340	300	255	230	205	170
9.5	355	310	265	240	210	175
10	365	320	275	245	220	185

During weaning, ensure food is available at all times.
These are suggested quantities and may vary depending on the puppy's breed and activity level.

SMALL & TOY: ADULT & SENIOR

	DAILY RATION (g/day)					
	ADULT SMALL & TOY			SENIOR SMALL & TOY		
BW (kg)	ACTIVE -	ACTIVE =	ACTIVE +	ACTIVE -	ACTIVE =	ACTIVE +
1	40	40	45	40	45	45
2	60	65	75	60	70	75
3	80	90	95	80	90	100
4	95	105	115	95	110	120
5	110	125	135	115	125	140
6	125	140	155	130	140	155
7	140	155	170	140	155	175
8	150	170	185	155	170	190
9	165	185	200	165	185	205
10	175	195	215	180	200	220

These are suggested quantities and may vary depending on the dog's breed.

FEEDING TABLES

NEUTERED SMALL & TOY: ADULT & SENIOR

	DAILY RATION (g/day)						
	ADULT NEUTERED SMALL & TOY				SENIOR NEUTERED SMALL & TOY		
BW (kg)	SOFT WEIGHT LOSS	ACTIVE -	ACTIVE =	ACTIVE +	ACTIVE -	ACTIVE =	ACTIVE +
1	32	35	40	45	35	35	40
2	50	55	65	70	50	55	65
3	66	75	80	90	70	75	85
4	80	90	100	110	80	90	100
5	93	105	115	125	95	105	115
6	105	120	130	145	105	120	130
7	116	130	145	160	120	130	145
8	127	145	160	175	130	145	160
9	137	155	170	190	140	155	170
10	147	165	185	200	150	170	185

These are suggested quantities and may vary depending on the dog's breed.
NB in case of soft weight loss: weigh the dog weekly and change daily ration according to the new body weight.

NEUTERED LARGE & MEDIUM: ADULT & SENIOR

	DAILY RATION (g/day)									
	ADULT NEUTERED LARGE & MEDIUM				ADULT NEUTERED SENSITIVE DIGEST LARGE & MEDIUM			SENIOR NEUTERED LARGE & MEDIUM		
BW (kg)	SOFT WEIGHT LOSS	ACTIVE -	ACTIVE =	ACTIVE +	ACTIVE -	ACTIVE =	ACTIVE +	ACTIVE -	ACTIVE =	ACTIVE +
11	157	175	195	215	165	185	200	160	180	195
12	166	185	210	230	175	195	215	170	190	210
14	184	205	230	255	195	215	235	190	210	230
15	193	215	240	265	200	225	245	200	220	240
16	201	225	250	275	210	235	260	205	230	250
18	218	245	270	300	230	255	280	225	250	275
20	234	265	290	320	245	270	300	240	265	295
22	249	280	310	345	260	290	320	255	285	310
24	264	295	330	365	275	310	340	270	300	330
25	271	305	340	375	285	315	350	280	310	340
26	278	315	350	385	290	325	355	285	315	350
28	293	330	365	400	305	340	375	300	335	365
30	306	345	385	420	320	355	395	315	350	385
32	320	360	400	440	335	375	410	330	365	400
34	333	375	415	460	350	390	425	340	380	415
35	340	380	425	465	355	395	435	350	385	425
36	346	390	430	475	365	405	445	355	395	435
38	359	405	450	495	375	420	460	370	410	450
40	371	420	465	510	390	430	475	380	425	465
42	383	430	480	525	400	445	490	395	435	480
44	396	445	495	545	415	460	505	405	450	495
45	402	450	500	550	420	470	515	410	455	505
46	407	460	510	560	425	475	520	420	465	510
48	419	470	525	575	440	490	535	430	480	525
50	431	485	540	590	450	500	550	440	490	540
52	442	495	555	610	465	515	565	455	505	555
55	459	515	575	630	480	535	590	470	525	575
58	476	535	595	655	500	555	610	490	540	595
60	486	545	610	670	510	565	625	500	555	610
62	497	560	620	685	520	580	635	510	565	625
65	513	575	640	705	540	600	660	525	585	645
68	529	595	660	725	555	615	680	540	605	665
70	539	605	675	740	565	630	690	555	615	675
72	549	620	685	755	575	640	705	565	625	690
75	564	635	705	775	590	660	725	580	645	710
78	579	650	725	795	610	675	745	595	660	725
80	589	665	735	810	620	685	755	605	670	740

These are suggested quantities and may vary depending on the dog's breed.
NB in case of soft weight loss: weigh the dog weekly and change daily ration according to the new body weight.

FEEDING TABLES

LARGE & MEDIUM: GESTATION & LACTATION

	DAILY RATION (g/day)			
	PUPPY LARGE & MEDIUM			
	GESTATION			LACTATION
BW (kg)	WEEKS 1-5	WEEKS 6-7	WEEKS 8-9	
11	195	215	295	585
12	205	225	310	620
14	230	250	345	685
15	240	265	360	720
16	250	275	375	750
18	270	300	405	810
20	290	320	435	870
22	310	340	465	930
24	330	360	490	985
25	335	370	505	1010
26	345	380	520	1040
28	365	400	545	1090
30	380	420	570	1140
32	400	435	595	1195
34	415	455	620	1240
35	420	465	635	1265
36	430	475	645	1290
38	445	490	670	1335
40	460	505	690	1385
42	475	525	715	1430
45	500	550	750	1495
48	520	575	780	1565
50	535	590	805	1605
52	550	605	825	1650
55	570	630	855	1710
58	590	650	885	1775
60	605	665	905	1815
62	620	680	925	1855
65	640	700	955	1915
68	655	725	985	1970
70	670	735	1005	2010
72	685	750	1025	2050
75	700	770	1050	2105
78	720	790	1080	2160
80	730	805	1100	2195

During gestation, the BW is the one at the beginning of gestation.
During lactation, the BW is the current BW of the lactating bitch.
During lactation, the bitch may be fed ad libitum.

LARGE & MEDIUM: GROWTH

	DAILY RATION (g/day)		
	PUPPY LARGE & MEDIUM		
BW (kg)	2-3 MONTHS	4-5 MONTHS	6-7 MONTHS
3	165	145	125
4	200	175	150
5	230	200	175
6	260	230	195
7	290	250	215
8	315	275	235
9	340	300	255
10	365	320	275
12	415	360	310
14	460	400	345
15	480	420	360
16	500	440	375
18	540	475	405
20	580	510	435
22	620	540	465
24	655	575	490
25	675	590	505
26	690	695	520
28	725	635	545
30	760	665	570
32	795	695	595
34	830	725	620
35	845	740	635
36	860	755	645
38	890	780	670
40	925	805	690
42	955	835	715
44	985	860	735
45	1000	875	750
46	1015	885	760
48	1040	910	780
50	1070	935	805

During weaning, ensure food is available at all times.
These are suggested quantities and may vary depending on the puppy's breed and activity level.

FEEDING TABLES

VETERINARY HPM®

LARGE & MEDIUM: GROWTH

	DAILY RATION (g/day)								
	JUNIOR								
	SPECIAL MEDIUM				SPECIAL LARGE				
BW (kg)	7 MONTHS	8 MONTHS	9-10 MONTHS	11-12 MONTHS	8 MONTHS	9-11 MONTHS	12-14 MONTHS	15-16 MONTHS	17-18 MONTHS
2.5	110	100	90	75					
3	125	115	100	85					
3.5	140	125	110	95					
4	155	140	125	100					
4.5	165	150	135	110					
5	180	160	145	120					
6	200	180	160	135					
7	225	200	180	145					
8	245	220	195	165					
9	265	235	210	175					
10	285	255	225	190					
12	320	290	255	215					
14	355	320	285	235	380	340	305	280	255
15	370	335	295	245	400	360	320	290	265
16	385	350	310	260	415	375	330	305	275
18	420	375	335	280	450	405	360	330	300
20	450	405	360	300	480	435	385	355	320
22	480	430	385	320	515	460	410	375	340
24	510	455	405	340	545	490	435	400	365
25	520	470	415	350	560	505	450	410	375
26					575	515	460	420	385
28					605	545	485	440	400
30					630	570	505	465	420
32					660	595	530	485	440
34					685	620	550	505	460
35					700	630	560	515	465
36					715	640	570	525	475
38					740	665	590	540	495
40					765	690	610	560	510
42					790	710	635	580	525
44					815	735	655	600	545
45					830	745	660	605	550
46					840	755	670	615	560
48					865	780	690	635	575
50					890	800	710	650	590
52					910	820	730	670	610
54					935	840	750	685	625
55					945	850	755	695	630
56					960	860	765	705	640
58					980	885	785	720	655
60					1005	905	805	735	670
62					1025	925	820	750	685
64					1045	945	840	770	700
65					1060	950	845	775	705
66					1070	960	855	785	715
68					1090	980	870	800	725
70					1110	1000	890	815	740

During weaning, ensure food is available at all times.
These are suggested quantities and may vary depending on the puppy's breed and activity level.

LARGE & MEDIUM: ADULT & SENIOR

	DAILY RATION (g/day)								
	ADULT LARGE & MEDIUM			ADULT SENSITIVE DIGEST LARGE & MEDIUM			SENIOR LARGE & MEDIUM		
BW (kg)	ACTIVE -	ACTIVE =	ACTIVE +	ACTIVE -	ACTIVE =	ACTIVE +	ACTIVE -	ACTIVE =	ACTIVE +
11	190	210	230	185	205	225	190	215	235
12	200	220	245	195	215	240	205	225	250
14	220	245	270	215	240	265	225	250	275
15	230	255	280	225	250	275	235	260	290
16	240	270	295	235	265	290	245	275	300
18	260	290	320	255	285	315	265	295	325
20	280	310	340	275	305	335	285	315	350
22	300	330	365	295	325	360	305	335	370
24	315	350	385	310	345	380	320	360	395
25	325	360	395	320	355	390	330	365	405
26	335	370	405	325	365	400	340	375	415
28	350	390	430	345	380	420	355	395	435
30	365	410	450	360	400	440	375	415	455
32	385	425	470	375	420	460	390	435	475
34	400	445	485	390	435	480	405	450	495
35	405	450	495	400	445	490	415	460	505
36	415	460	505	405	450	495	420	470	515
38	430	475	525	420	470	515	435	485	535
40	445	495	545	435	485	535	455	505	555
42	460	510	560	450	500	555	465	520	570
44	475	525	580	465	515	570	480	535	590
45	480	535	590	470	525	575	490	545	600
46	490	540	595	480	535	585	495	550	605
48	500	560	615	495	545	600	510	570	625
50	515	575	630	505	560	620	525	585	640
52	530	590	645	520	575	635	540	600	660
55	550	610	670	540	600	660	560	620	685
58	570	635	695	560	620	685	580	645	710
60	580	645	710	570	635	700	595	660	725
62	595	660	730	585	650	715	605	675	740
65	615	685	750	605	670	735	625	695	765
68	635	705	775	620	690	760	645	715	790
70	645	715	790	635	705	775	655	730	805
72	660	730	805	645	715	790	670	745	820
75	675	750	825	665	735	810	690	765	840
78	695	770	850	680	755	830	705	785	865
80	705	785	860	690	770	845	720	800	880

These are suggested quantities and may vary depending on the dog's breed.

VETERINARY HPM®

SCIENTIFIC STUDIES

PUBLICATIONS LIST

FELINE STUDIES

CANINE STUDIES

VETERINARY HPM®

Study poster presented at: the European Society of Veterinary & Comparative Nutrition congress; 11-13 Sept. 2014; Utrecht, Netherlands.

EFFECT OF A DRY DIET COMPOSITION ON WATER INTAKE IN CATS

INTRODUCTION

Cats tend to produce small amounts of concentrated urine, and this may be particularly marked when they are fed dry diets.[1] Inflammation and crystallization are thus favoured. Urine volume is determined to a large extent by water intake, and so increasing water intake should result in an increased volume of more dilute urine, and increased frequency of urination. High dietary sodium contents are useful to increase water intake.[2-4]

The aim of this study was to assess the impact of a high-protein maintenance diet on water intake in cats.

ANIMALS, MATERIALS AND METHODS

8 healthy adult cats tested, according to a cross over design, 3 dry diets for 2 weeks per diet. The test diet (A) was compared to commercial dry diets for adult cats (B & C). The study focused on the two main nutrients known to impact water intake in cats: protein and sodium (Table 1). Individual daily rations were isocaloric, calculated to maintain cats' bodyweight. During the 2nd week of each test period, daily diet and water intakes were measured for each cat. Adjusted pair-wise comparisons were used to compare water intake between groups. Pearson coefficients of correlation were computed and tested. Significance threshold was set at 5%.

Protein and sodium contents (%CM) in the 3 diets

Diet	Protein	Sodium
A: High Prot / Moderate Na	44.4	0.60
B: Low Prot / Low Na	30.5	0.43
C: Moderate Prot / High Na	36.0	0.85

TABLE 1

I. Leriche[1], E. Benizeau[2], C. Navarro[2], S. Fournel[2], G. Chaix[2]
[1] Virbac Nutrition, Vauvert, France
[2] Virbac Medical and R&D Department, Carros, France

RESULTS

The mean dietary protein and sodium intakes are summarized in Table 2. Mean water intakes are shown in Figure 1, with a significant difference between A and B (p=0.0004), but no significant difference between A and C. A significant positive correlation was shown between the daily dietary sodium intake and water intake, and a significant (p=0.0104) positive correlation was also established between daily dietary protein intake and water intake (Figure 2).

Dietary protein and sodium intakes (g/kgBW/d) in the 3 groups

Diet	Protein	Sodium
A: High Prot / Moderate Na	7.9	0.12
B: Low Prot / Low Na	4.9	0.07
C: Moderate Prot / High Na	6.4	0.15

TABLE 2

Fig. 1: Water intake in the 3 groups

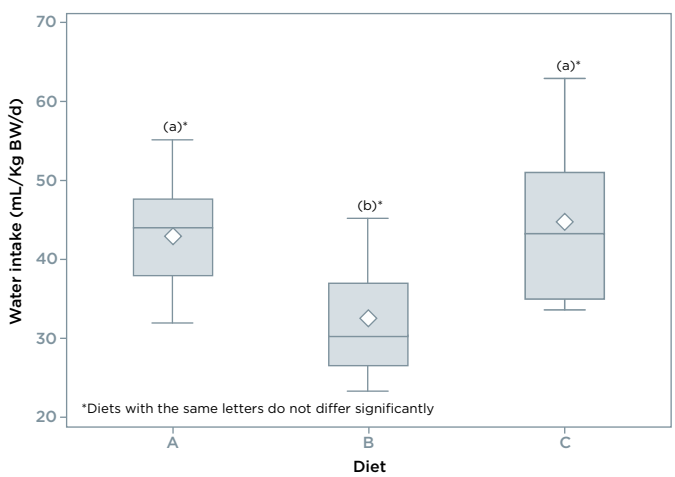
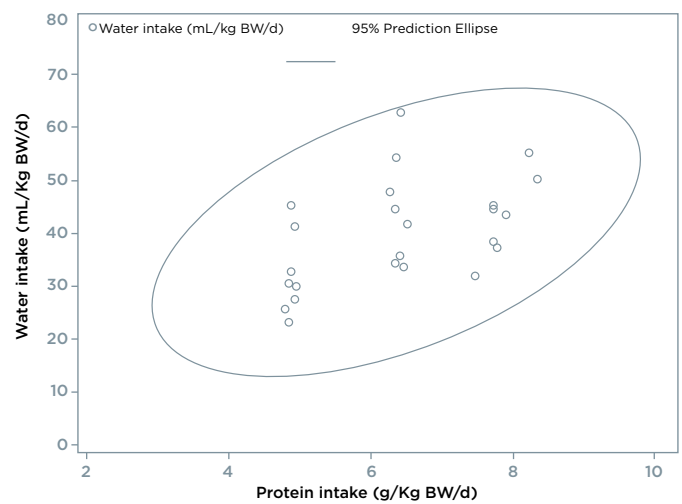


Fig. 2: Correlation between water and protein intakes



1) Buckley CM et al. Br J Nut 2011; 106 Suppl 1: S28-S30 ; 2) Hawthorne AJ and Markwell PJ. J Nutr 2004; 134: 2128S-2129S; 3) Tournier C et al. Proceedings 10th ESVCN Congress 2006; 189 ;
4) Xu H et al. J Vet Intern Med 2006; 20: 103 ; 5) Funaba et al. AJVR 1996; 57(12): 1726-1732 ; 6) Themelin M. Thèse pour le Doctorat Vétérinaire, ENV Alfort 2007 ; 7) Kirk CA et al. Vet Therap 2006; 754: 333-346

CONCLUSION

This preliminary study showed the stimulating effect of dietary protein on water intake. Thus, increase dietary protein level in cats' diets could provide a way of preventing feline lower urinary tract disease. This could be more adapted for cats as carnivores than the use of increased dietary sodium contents.

VETERINARY HPM®

Study poster presented at: the American Society of Animal Science congress; 12-16 July 2015; Orlando, USA.

A HIGH PROTEIN INTAKE ALLOWS THE PRESERVATION OF LEAN MASS AND PREVENTS THE INCREASE OF FAT MASS, COMPARED TO A MODERATE PROTEIN INTAKE, IN NEUTERED CATS

INTRODUCTION

Cats are strict carnivores and have a high dietary protein requirement. Rich-protein diets are often intended to prevent obesity or manage weight loss, as they help preserve the lean body mass.

The aim of this study was to assess the effect of an experimental high-protein low carbohydrate maintenance dry diet (HP), compared to a commercial moderate-protein high-carbohydrate dry diet (MP), on body composition in neutered cats.

ANIMALS, MATERIALS AND METHODS

Twelve young adult neutered cats (19.6±0.4 months old; 3.56±0.2 kg BW) were randomized into 2 groups. They were fed exclusively, for 5 months, either the HP or the MP diet.
The daily rations were calculated to maintain the cats' body weight. Body composition (BC) was determined using deuterium oxide dilution at the beginning then at the end of the study.

Ingredient lists of the tested diets	
HP diet	Dehydrated poultry proteins, bean pods, pea, potato starch, animal fat, potato pulp, minerals, linseed, fructo oligosaccharides.
MP diet	Maize, dehydrated poultry proteins, maize gluten, animal fat, minerals, fish oil, hydrolized proteins, rice.

TABLE 1

Nutritional characteristics of the tested diets		
	HP diet	**MP diet**
Protein (% DM)	50.2	33.7
Fat (% DM)	14.3	10.6
NFE (% DM)	18.7	48.4
In vivo ME (kcal/kg DM)	3,320	3,590

TABLE 2

A. André[1], I. Leriche[2], G. Chaix[3], P. Nguyen[1]
[1] Nutrition & Endocrinology Unit, National College of Veterinary Medicine, Nantes, France
[2] Virbac Nutrition, Vauvert, France
[3] Virbac Medical Department, Carros, France

RESULTS

On day 1, the 2 groups were similar regarding their BW and BC. In both groups no change in BW was observed. BC was unchanged in the HP group whereas significant changes were noticed in the MP group. As a consequence, the lean mass/fat mass ratio did not change in the HP group (74/26 and 75/25 at the beginning and the end of the study respectively), and showed a significant change in the MP group: from 77/23 to 69/31.

Mean protein and NFE intake in each group

	HP diet	MP diet
Protein intake (g/kg BW/day)	7.2±0.6	4.6±0.3
NFE intake (g/kg BW/day)	2.6±0.3	6.7±0.5

TABLE 3

Fig. 1: Evolution of the lean mass in each group

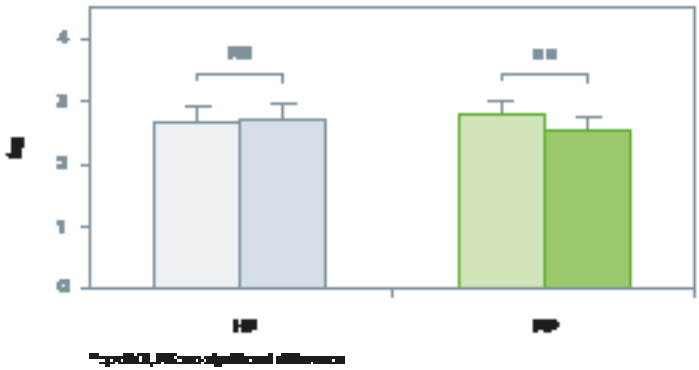
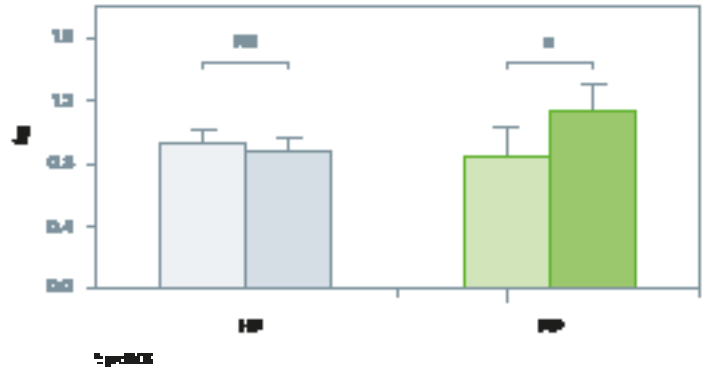


Fig. 2: Evolution of the fat mass in each group



a) National Resarch 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

Although the protein content of the MP diet was higher than the recommended allowance[a], it appeared not high enough to maintain lean body mass in these cats. Our results are in accordance with another study showing that adult cats would require at least 5.2 g protein/kg BW/day to maintain their lean body mass[b].

Study poster presented at: the Southern European Veterinary Conference; 9 Nov. 2019; Seville, Spain.

FORTY MONTH-FOLLOW UP OF RENAL FUNCTION IN CATS FED A HIGH-PROTEIN DIET

INTRODUCTION

Chronic kidney disease (CKD) is common in cats, with prevalence increasing with age.[1,2] Etiology of CKD remains unclear. Among nutritional factors, intake of highly available phosphorus excesses has been demonstrated causing kidney damage or dysfunction in cats[3]. Despite the absence of evidence of any deleterious effect of high-protein diets on the renal function[4,5], there are still concerns regarding the safety of such diets in healthy adult cats. Besides blood analyses commonly performed in vet practices for renal function assessment, symmetric dimethylarginine (SDMA) has been shown to be an accurate kidney biomarker, not affected by protein intake or lean body mass.[6-8]

The objective of this study was to follow up selected parameters of the renal function in adult cats fed a dry high-protein diet for 40 months.

ANIMALS, MATERIALS AND METHODS

Ten healthy adult European cats (31±6 month old) previously fed a standard maintenance diet[a], were fed exclusively a new high-protein diet[b] (Tables 1 and 2). The daily rations were calculated to maintain cats' body weight. Fasting blood samples were collected at the start of the study (M0) and then every 2-3 months for 40 months, meaning 19 time points.
Six serum parameters were measured to assess the renal function. Statistical comparisons were performed between each time and M0 for each renal parameter, by ANOVA with repeated measures and Friedman tests, with a 5% significance level.

Composition of the previous and test diets

Previous: Dehydrated animal protein, maize, animal fat, maize protein, wheat, bean hulls, beet pulp, linseed, egg, defated soybean, FOS, borage seed, wheat bran, artichoke leave, minerals.
Test: Dehydrated pork and poultry protein, potato starch, hydrolysed animal protein, bean hulls, pea, animal fat, lignocellulose, minerals, linseed, beet pulp, rice, FOS, psyllium fibre, chitosan, artichoke leave, pasteurised Lactobacilli.

TABLE 1

a Virbac Vet Complex™ adult neutered cat with duck
b Virbac Veterinary™ HPM adult neutered cat

Characteristics of the previous and test diets

Nutritional characteristics	Previous	Test
Metabolisable Energy (ME) (kcal/100g as fed)	381	363
Protein (% ME)	32	46
Fat (% ME)	38	34
Carbohydrate (% ME)	30	20
Calcium (g/Mcal)	2.62	3.58
Phosphorus (g/Mcal)	2.10	2.75
Sodium (g/Mcal)	1.05	1.93

TABLE 2

I Leriche[1], A Franchi[2], C Bouchez[2]
[1]Virbac Nutrition, Vauvert, France
[2] Virbac Medical and R&D Department, Carros, France

RESULTS

Palatability of the new diet was high, food consumption was correct and the digestive tolerance was good in all cats. Cats remained healthy throughout the study, no side effect in relation with the food has been reported.

First, regarding the 5 usual kidney parameters, individual values remained within the reference ranges over the study, except for urea in 1 sample (0.21 g/L at M17), albumin in 23 samples of the 10 cats (41 to 45 g/L, all before M20), and phosphates in 1 sample (77.6 mg/L at M13). These exceptions, very close to the reference values and without any correlation between them, were considered incidental and due to biological variability of the markers. The mean values showed some significant changes at some time points vs M0: decrease for urea, creatinine and albumin, increase for total proteins, and both decrease and increase for phosphates (Table 3 and Figures 1 and 2).

Secondly, regarding SDMA individual results, 7 cats presented minor increases (15-18 µg/dL) at 1 to 5 time points during the study, meaning a total of 19 high values out of 190 samples or 10%. Four of these cats had already high baseline SDMA concentrations (15-17 µg/dL at M0). High SDMA values were never successive in time nor correlated with other abnormal parameters or clinical signs. These 7 cats could be considered as patients with a sub-clinic decline in their renal function, without any degradation throughout the study despite the change in their diet.

Mean values and standard deviations after 11,23, 31 and 40 months feeding the test diet (*: significant difference compared to M0)

Serum renal parameters	M0	M11	M23	M31	M40	Laboratory ref ranges
Ure (g/L)	0.53±0.04	0.50±0.04*	0.51±0.05*	0.50±0.06	0.57±0.06	0.34-0.76
Creatinine (mg/L)	19.4±1.3	17.3±1.7*	16.5±1.1*	16.9±2.6*	17.7±1.5*	8.0-24.0
Total proteins (g/L)	68.1±5.8	72.0±3.8	67.0±5.4	70.7±4.4	67.9±4.8	57-89
Albumin (g/L)	43.2±5.6	38.1±1.8*	33.9±2.4*	33.2±2.1*	32.1±2.3*	22-40
Phosphates (mg/L)	49.2±10.0	44.1±7.4*	46.0±4.8	44.6±5.5	58.1±8.4*	31-75
SDMA (µg/dL)	13.2±2.4	11.2±1.4*	11.7±2.1	11.9±2.7	12.3±2.3	0-14

TABLE 3

Fig. 1: Mean urea (g/L)

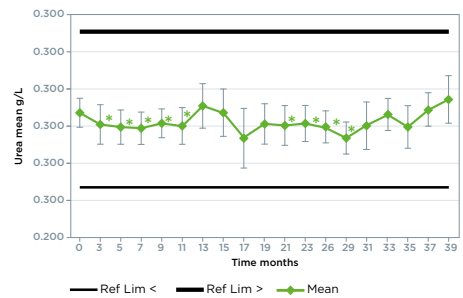


Fig. 2: Mean creatinine (mg/L)

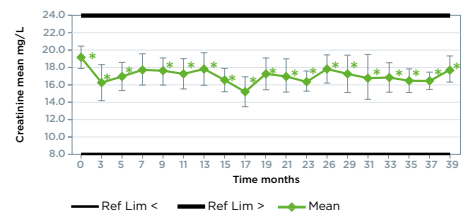
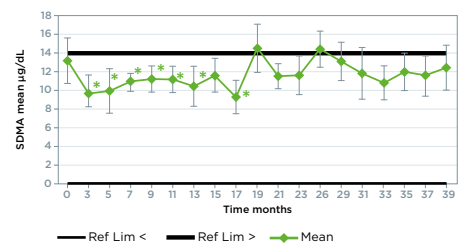


Fig. 3: Mean SDMA (µg/dL)



a) National Resarch 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

Our results confirmed that a high-protein content in a balanced diet had no negative impact on the renal biomarkers in the long term in healthy adult cats.

VETERINARY HPM®

Study poster presented at: the Southern European Veterinary Conference; 15-17 Nov. 2015; Barcelona, Spain.

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 level[5-10]. 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

I. Leriche[1], MO. Gely[1], P. Nguyen[2]
[1] Virbac Nutrition, Vauvert, France
[2] Nutrition & Endocrinology Unit, National College of Veterinary Medicine, Nantes, France

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 petfood[11]. 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 nutrients of the diets

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.

Study published at: the International Journal of Applied Research in Veterinary Medicine; 2016, Vol. 14, No. 2, 190-202.

ASSESSMENT THROUGH A PET OWNER SURVEY OF THE GASTROINTESTINAL TOLERANCE OF A NEW HIGH PROTEIN-LOW CARBOHYDRATE DIET RANGE IN GROWING DOGS

INTRODUCTION

The Veterinary HPM range is formulated so that proteins and lipids represent the major sources of energy, with the proportion of carbohydrates kept as limited as possible, in order to match carnivorous needs more closely. This new nutritional approach may raise some questions about digestive tolerance and about the transition from the usual commercial diets to HP-LC diets.

The objective of this study was to assess the digestive tolerance of the new Veterinary HPM Baby and Junior Dog diets in client-owned puppies of various breeds, through a questionnaire survey administered to the owners over a 28-day testing period.

ANIMALS, MATERIALS AND METHODS

Multiple-choice questionnaires had to be filled out by pet owners at the beginning of the study, at the end of a 4-day diet transition, and after 7, 14, and 28 days. About 30% of the enrolled dogs had previously shown a digestive sensitivity with their usual food, mainly manifested as diarrhoea.

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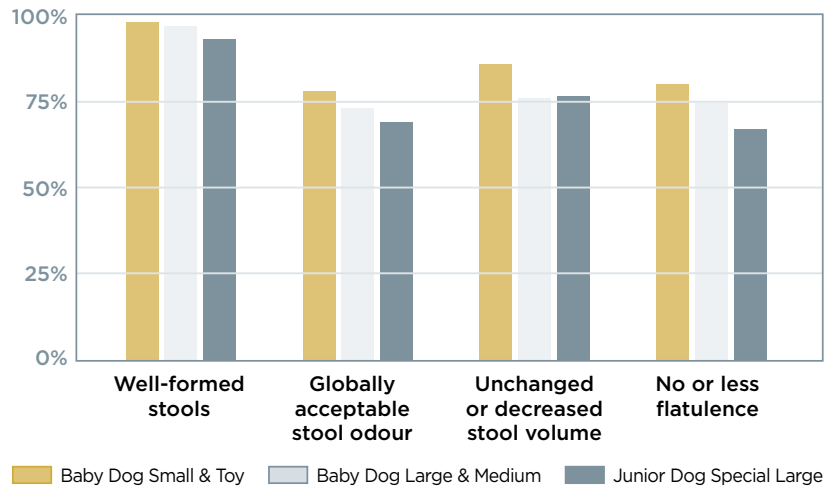
[1] Virbac Medical Department, Carros, France
[2] Virbac R&D Department, Carros, France
[3] Virbac Nutrition R&D Department, Vauvert, France

RESULTS

In the present study, more than 94% of the pet owners were satisfied with the way the transition to the tested diets had taken place. Volume, consistency, and odour of the stools showed little change when switching diets, and were not significantly different between the different time points for each tested diet.

After 1 month, the great majority of the dogs (93 to 98%) had well-formed stools. 69 to 78% of the owners considered that stool odour was globally acceptable. Between 76 and 86% of the owners found that the volume of faeces did not change or decreased compared to the usual diet. No or less flatulence was observed in 67 to 80% of the dogs depending on the diet.

Digestive tolerance after 1 month



G. Chaix et al. Questionnaire-based pet owner evaluation of gastrointestinal tolerance of a new high protein low carbohydrate diet range in growing dogs. Intern J Appl Res Vet Med Vol. 14, No.2, 2016.

CONCLUSION

The three tested Veterinary HPM diets enabled a safe diet transition from numerous kinds of canine foods. The tested diets have all shown a high digestive tolerance in various-sized puppies and growing dogs of different breeds.

Study poster presented at: the Southern European Veterinary Conference; 15-17 Nov. 2015; Barcelona, Spain.

IMMUNOSTIMULATORY EFFECT OF BETA-1,3/1,6-GLUCAN SUPPLEMENTATION IN A DRY DIET AFTER VACCINATION IN PUPPIES

INTRODUCTION

Several infectious diseases are still causes of high morbidity and mortality in puppies. It is a common practice to protect puppies thanks to vaccines, but many stress and immunosuppressive conditions may occur and impact the effect of vaccination. Some functional ingredients are used to stimulate the immune system and enhance the efficacy of vaccines.[1,2]
Beta-1,3/1,6-glucan is extracted from cell wall of baker yeast (Saccaromyces cerevisae).
Its molecular configuration is crucial for its biological activity: recognition of beta-glucan by specific receptors is translated into activation of the innate immune cells, synthesis and release of cytokines, generation of enhanced cell-mediated responses and finally orchestration of the adaptive immune response.[3] The immunostimulatory abilities of beta-glucan have already been demonstrated in young and adult dogs.[4-7]

The aim of this study was to assess the effect of beta-1,3/1,6-glucan included in a dry diet, on serum immunglobulin G concentration following polyvalent vaccination in puppies.

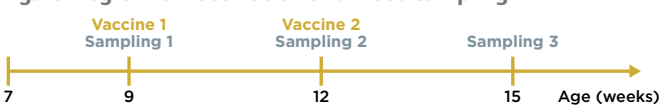
ANIMALS, MATERIALS AND METHODS

Twenty Beagle puppies (7 weeks of age at the initiation of the study) were allocated into 2 groups, with similar environment and breeding conditions. From weaning and for 2 months, they were fed either a control diet (Control) or a test diet (Beta-glucan). The Control diet was a commercial dry diet intended for growing dogs (Table 1). The only difference between the 2 diets was beta-glucan added in the Beta-glucan diet (dose: 565 mg/kg DM) and included in the fat coating of the kibbles. The program of vaccination (using a commercial modified live polyvalent vaccine) and blood sampling is represented in Fig. 1. For each blood sample, serum IgG concentrations were measured by radial immune-diffusion technique.

Nutritional characteristics of the tested diets (% DM)	
Crude protein	35.9
Crude fat	22.8
Crude fibre	2.2
Crude ash	7.6
Calcium	1.4
Phosphorus	1.1

TABLE 1

Fig. 1: Program of vaccination and blood sampling



I. Leriche[1], MO. Gely[1], A. Batard[2]
[1] Virbac Nutrition, Vauvert, France
[2] Virbac France, Carros, France

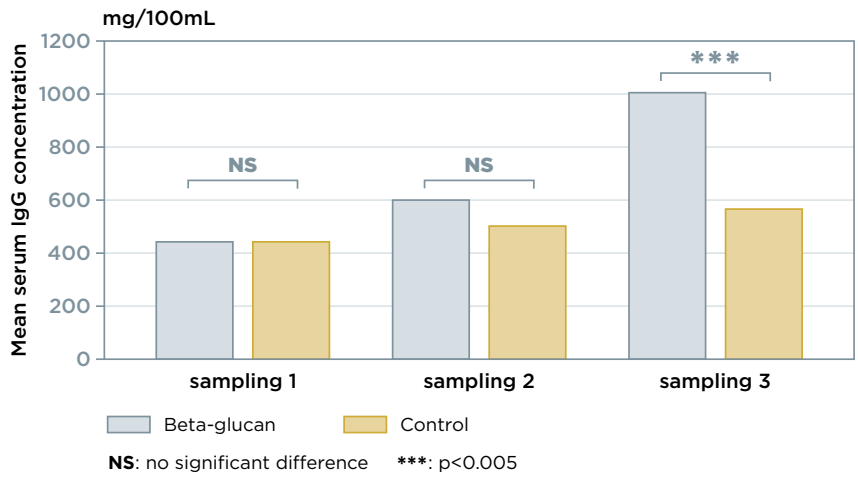
RESULTS

All puppies consumed normally their daily ration and remained healthy throughout the study.

There was no difference in baseline serum IgG concentrations (sampling 1) between the groups (Fig. 2). As a reaction to the first vaccination, IgG level was increased in both groups at sampling 2: it was higher with Beta-glucan diet but without significant difference.

At the end of the study, 3 weeks after the second vaccine, IgG concentration (sampling 3) was significantly higher in the Beta-glucan group compared to the Control group.

Fig. 2: Mean serum IgG concentratioins in each group



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CONCLUSION

This study shows that addition of beta-1,3/1,6-glucan (565 mg/kg DM) in a dry food increases efficiently the humoral response after vaccination in puppies, and thus may help to promote a better immune protection for a regular and harmonious growth.

Study published at: the International Journal of Applied Research in Veterinary Medicine; 2016, Vol. 14, No. 3, 242.

QUESTIONNAIRE-BASED PET OWNER EVALUATION OF GASTROINTESTINAL TOLERANCE OF A NEW HIGH PROTEIN-LOW CARBOHYDRATE DIET RANGE IN ADULT DOGS

INTRODUCTION

Faecal characteristics are important parameters for dog owners to assess diet quality and digestibility. Various factors such as the source, amount, and quality of proteins, starches, fibres, and minerals can affect the digestibility of dry-expanded diets. Veterinary HPM diet range are HP-LC (high protein - low carbohydrate) diets.

The aim of the present study was to provide evidence of the gastrointestinal tolerance of 4 diets from the Veterinary HPM diet range in adult dogs in field conditions.

ANIMALS, MATERIALS AND METHODS

The four diets were tested in 284 adult dogs over a 28-day period and compared to their usual diets. Online evaluations were performed at the beginning of the study, at the end of the 4-day diet transition, and at 7, 14 and 28 days. Digestive sensitivity with the dog's usual food was reported in 28% of the enrolled dogs.

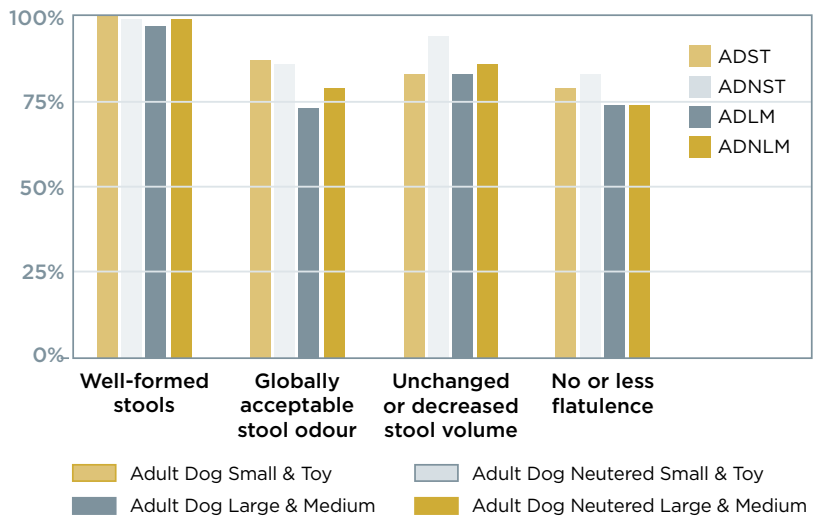
G. Chaix[1], S. Fournel[2], M. Zulian[2], I. Leriche[3]
[1] Virbac Medical Department, Carros, France
[2] Virbac R&D Department, Carros, France
[3] Virbac Nutrition R&D Department, Vauvert, France

RESULTS

At least 94% of the pet owners declared they were satisfied with the transition to the tested diets. Average stool consistency scores with the tested diets remained steady at the optimal value of 2.2. Faecal consistency and stool volume were not significantly different between the different time points.

After 1 month, the great majority of the dogs (97 to 100%) had well-formed stools.73 to 87% of the owners considered that stool odour was globally acceptable. Between 83 and 94% of the owners found that the volume of faeces did not change or decreased compared to the usual diet. No or less flatulence was observed in 74 to 83% of the dogs depending on the diet.

Digestive tolerance after 1 month



G.Chaix et al. Questionnaire-based Pet owner evaluation of gastrointestinal tolerance of a new high protein-low carbohydrate diet range in adult dogs. Intern J Appl Res Vet Med • Vol. 14, No. 3, 2016.

CONCLUSION

A safe diet transition and a high digestive tolerance was reported after feeding various-sized adult dogs of different breeds with the tested Veterinary HPM diets.

Study poster presented at: the European Society of Veterinary & Comparative Nutrition online congress; 17-19 Sept. 2020; Munich, Germany.

FORTY MONTH-FOLLOW UP OF RENAL FUNCTION IN DOGS FED A HIGH-PROTEIN DIET

INTRODUCTION

Despite the absence of evidence of any deleterious effect of high-protein diets on pets' renal function[1-4], there are still concerns regarding the safety of such diets in the long term. Besides blood analyses commonly performed in vet practices for the renal function assessment, symmetric dimethylarginine (SDMA) has been shown to be an accurate kidney biomarker, not affected by protein intake or lean body mass.[5-7] Our hypothesis was that a high-protein content in a complete and balanced diet had no impact on the renal function of healthy dogs.

The objective of this study was to follow up selected parameters of the renal function in adult dogs fed a dry high-protein diet for 40 months.

ANIMALS, MATERIALS AND METHODS

Ten healthy entire adult Beagles (16±6 month old) previously fed a standard maintenance diet[a], were fed exclusively a new high-protein diet[b] (Tables 1 and 2). The daily rations were calculated to maintain dogs' body weight. Fasting blood samples were collected at the start of the study (M0) and then every 2-3 months for 40 months, meaning 19 time points.
Six serum parameters were measured to assess the renal function. Statistical comparisons were performed between each time and M0 for each renal parameter, by ANOVA with repeated measures and Friedman tests, with a 5% significance level.

Composition of the previous and test diets
Previous: Dehydrated animal protein, maize, wheat, animal fat, soybean, beet pulp, maize protein, linseed, wheat bran, FOS, chondroitin sulfate, chitosan, minerals.
Test: Dehydrated pork and poultry protein, rice, pea, animal fat, hydrolysed animal protein, potato starch, lignocellulose, linseed, bean hulls, minerals, beet pulp, FOS, psyllium fibre, chitosan, pasteurised Lactobacilli, chondroitin sulfate.

TABLE 1

a Virbac Vet Complex™ adult dog
b Virbac Veterinary™ HPM adult dog L&M

Characteristics of the previous and test diets		
Nutritional characteristics	**Previous**	**Test**
Metabolisable Energy (ME) (kcal/100g as fed)	398	369
Protein (% ME)	25	34
Fat (% ME)	41	41
Carbohydrate (% ME)	34	25
Calcium (g/Mcal)	3.5	3.5
Phosphorus (g/Mcal)	2.5	2.7
Sodium (g/Mcal)	1.3	1.6

TABLE 2

I. Leriche[1], A Franchi[2], C Bouchez[2]
[1] Virbac Nutrition, Vauvert, France
[2] Virbac R&D Department, Carros, France

RESULTS

Palatability of the new diet was high, food consumption was correct and the digestive tolerance was good in all dogs. Dogs remained healthy throughout the study, no side effect in relation with the food has been reported.

Individual values of kidney parameters remained within the reference ranges over the study, except for urea in 1 dog (0.14 g/L at M29), creatinine in 1 dog (4.9 mg/L at M26), total protein in 3 dogs (50-51 g/L at M3, M29 and M33), albumin in 2 dogs (42-46 g/L at M9 and M15), phosphates in 1 dog (76.6 mg/L at M35), and SDMA in 5 dogs (15 µg/dL at M15, M22, M29, M37 and M40). These exceptions, very close to the reference values and without any correlation between them, can be considered incidental and due to biological variability of the biomarkers.

Mean values of some criteria showed significant changes at some time points vs M0 (decrease for urea, creatinine, albumin and phosphates, increase for total proteins, and decrease or increase for SDMA), but always remaining in the safety ranges (Table 3 and Figures 1 to 3).

Mean values and standard deviations after 11,24 and 40 months feeding the test diet (*: significant difference compared to M0)						
Serum renal parameters	M0	M11	M24	M40	Range in study	Laboratory ref ranges
Urea (g/L)	0.32±0.10	0.29±0.05	0.28±0.05	0.23±0.05*	0.21-0.32	0.15-0.57
Creatinine (mg/L)	7.5±1.0	7.6±0.6	7.4±1.0	6.4±0.7*	6.4-7.6	5.0-18.0
Total proteins (g/L)	52.7±1.5	60.1±3.1*	58.4±2.6*	57.9±2.9*	52.7-62.7	52-82
Albumin (g/L)	36.2±2.6	34.3±2.8*	31.5±2.8*	31.6±2.5*	30.9-36.7	23-40
Phosphates (mg/L)	46.7±7.5	39.9±5.0*	41.6±4.4	38.3±2.7*	34.6-46.7	25-68
SDMA (µg/dL)	10.9±1.1	11.6±1.4	9.4±1.8	11.6±1.9	8.6-13.1	0-14

TABLE 3

Fig. 1: Mean urea (g/L)

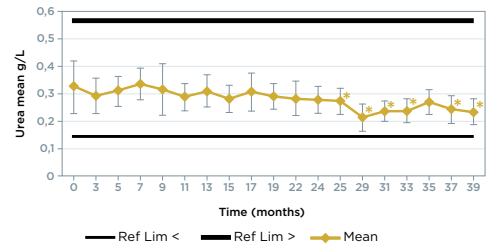


Fig. 2: Mean creatinine (mg/L)

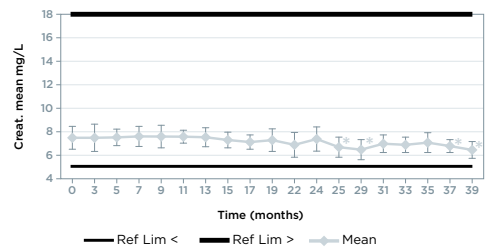
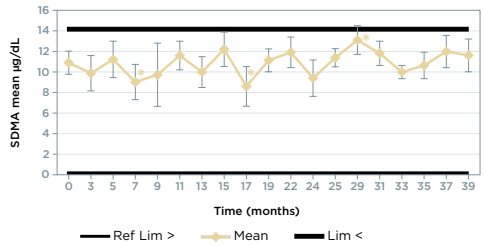


Fig. 3: Mean SDMA (µg/dL)



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CONCLUSION

Our results showed that a high-protein content in a balanced diet had no negative impact on the renal biomarkers in healthy adult dogs during 40 months.

Study published at: the Journal of Veterinary Medicine and Surgery; 2017, Vol. 1, No. 4:17.

EFFICACY AND TOLERANCE OF TWO LOW-CARBOHYDRATE DIETS IN LARGE ADULT DOGS WITH DIGESTIVE SENSITIVITY: A RANDOMIZED, CROSS-OVER, BLINDED EVALUATION

INTRODUCTION

The objective of this study was to assess the efficacy and gastrointestinal tolerance of a new dry low carbohydrate diet, Sensitive Digest Adult Dog (SENSI) formulated for adult dogs with sensitive digestive systems in comparison with the Adult Dog Large and Medium (ADULT) diet from the same Veterinary HPM range.

ANIMALS, MATERIALS AND METHODS

Dogs with digestive sensitivity were included in a two-period, two-sequence crossover study. 121 completed the study. They were randomly divided into two groups being fed, after a 4-day diet transition, exclusively and successively with each of the two tested diets over a 28-day period: Group 1 (63 dogs) was fed ADULT first and then SENSI ; Group 2 (58 dogs) was fed SENSI first. Digestive parameters were evaluated by owners, through online multiple-choice questionnaires, on D0, D7, D28 and D56.

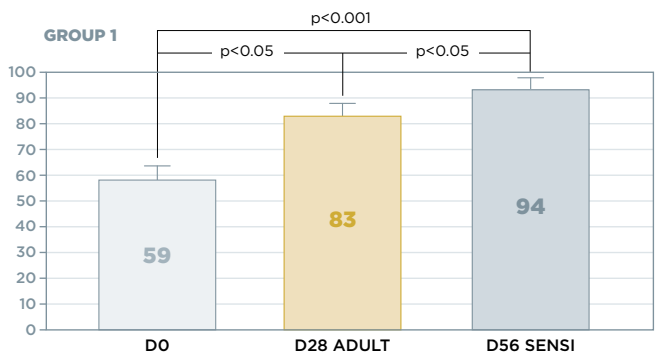
I. Leriche[1], C. Ereau[2], C. Navarro[3], C. Theron[1]
[1] Virbac Nutrition R&D Department, Vauvert, France
[2] Virbac Market Research and Competitive Intelligence Department, Carros, France
[3] Virbac Medical Department, Carros, France

RESULTS

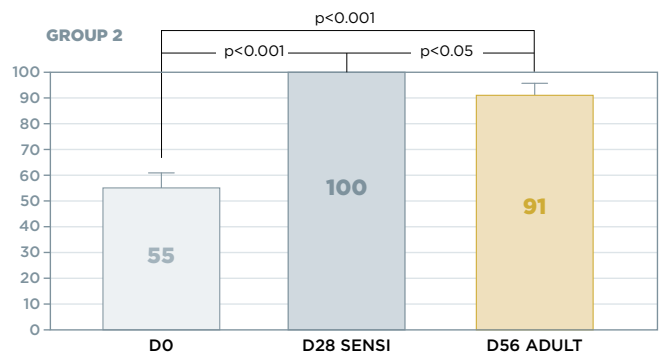
Both diets improved daily defecation frequency, faecal score, odour and volume, and flatulence frequency in comparison with the normal diet of the dog. Significant differences ($p<0.01$) were observed as soon as 7 days after the change of diet.

In Group 1, SENSI continued to upgrade digestive parameters after a 28-day feeding period with ADULT with significant differences for faecal volume ($p<0.05$). On the contrary, when ADULT was administered after SENSI (Group 2), the digestive parameters, except defecation frequency, were degraded, and this was significant for faecal consistency ($p<0.001$). No side effect was reported by the owners. Both diets were rated as highly palatable by owners, and preferred to the usual diets by about 50% of the dogs.

Percent dogs with "normal" faecal volume



Percent dogs with "normal" faecal volume



I. Leriche et al. Efficacy and tolerance of two low-carbohydrate diets in large adult dogs with digestive sensitivity: a randomized, cross-over, blinded evaluation. J Vet Med Surg 2017; 1(4): 1-10.

CONCLUSION

ADULT and SENSI were both well tolerated and improved digestive parameters in dogs with digestive sensitivity. On few parameters, the improvement was significantly higher with SENSI compared to ADULT. It was concluded that SENSI represents a valuable alternative to ADULT in dogs with sensitive digestive systems.

NOTES

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NOTES

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