



Pet Food Manufacturers' Association

23 September 2017

AGENDA

- 🐰 Overview of UK/EU pet food industry - Michael Bellingham (PFMA)
- 🐰 Pet Food Exposed: Behind the scenes of Pet Food Industry:
 - 🐰 Feeding the aging pets; nutritional needs of senior cats and dogs - Richard Butterwick (WALTHAM Centre for Pet Nutrition)
 - 🐰 Standardising the predictive equations to determine energy density in pet food - Thomas Brenten (Fediaf Nutrition & Analytical Science Working Group)
 - 🐰 Manufactured Raw, sector-specific guidelines, approaches of different EU countries and national associations - Claire Miller (PFMA Veterinary & Nutrition Committee and Raw Pet Food Group)
 - 🐰 PARNUTS: Background and where we are - Lisa Conboy (Fediaf PARNUTS Task Force)
- 🐰 Q&A / Round Table Discussion - Chaired by Dr John Lowe (PFMA Veterinary & Nutrition Committee)






Who we are

PFMA is a trade association representing the UK pet food industry.

- Established in 1970
- Has 76 member companies
- Accounts for over 90% of the UK pet food market



PFMA Aims & Objectives

-  Promote pet/bird food products
-  Promote responsible pet ownership
-  Raise standards in the pet food industry
-  Represent members' views
-  Share knowledge & keep members well informed
-  Stimulate the growth & reputation of the industry



PFMA Secretariat


Offices: Covent Garden, London

4 Permanent members of staff



 **Michael Bellingham**- Chief Executive

 **Lynn Insall** – Technical and Brexit support

 **Nicole Paley** – Communications

 **Sarah Hormozi** – Veterinary and Nutrition



List of PFMA members



Pet Food Manufacturers

- > [ARDEN GRANGE](#)
- > [BEAPHAR UK LTD](#)
- > [BERN PET FOODS](#)
- > [BOB MARTIN \(UK\) LTD](#)
- > [BURGESS PET CARE](#)
- > [BURNS PET NUTRITION](#)
- > [BUTCHER'S PET CARE](#)
- > [C&D FOODS LTD](#)
- > [CAMBRIAN PET FOODS](#)
- > [COUNTRYSIDE PRODUCTS](#)
- > [CROWN PET FOODS \(ROYAL CANIN UK & JAMES WELLBELOVED\)](#)
- > [DODSON & HORRELL LTD](#)
- > [DURHAM ANIMAL FEEDS \(DAF PETFOODS\)](#)
- > [FEEDWELL ANIMAL FOODS LTD](#)
- > [FISH 4 DOGS](#)
- > [LILY'S KITCHEN](#)
- > [MARCHES NATURAL](#)
- > [MARRIAGES FEEDS](#)
- > [MARS PETCARE](#)
- > [MPM PRODUCTS LTD](#)
- > [NATURAL INSTINCT](#)
- > [NATURES MENU LTD](#)
- > [NESTLE PURINA PETCARE](#)
- > [NOSE2TAIL \(OPTIM PET PRODUCTS LTD\)](#)
- > [OSCAR PETFOODS \(PEPS\)](#)
- > [PEDIGREE WHOLESALE LTD](#)
- > [PETS CHOICE LTD](#)
- > [POINTER PET PRODUCTS LTD](#)
- > [PROBIOTICS INTERNATIONAL LTD](#)
- > [PROPET](#)
- > [ROGER SKINNER LTD](#)

About PFMA

PFMA Annual Reports

- > [FOLD HILL FOODS LTD](#)
- > [GA PET FOOD PARTNERS](#)
- > [GLADWELL AND SONS LTD](#)
- > [GROVE PET FOODS \(ALPHA & VITALIN\)](#)
- > [HENRY BELL & CO \(MR. JOHNSON'S\)](#)
- > [HILL'S PET NUTRITION](#)
- > [IAMS \(UK\) LTD](#)
- > [INTERPET LTD](#)
- > [JOHNSON'S VETERINARY PRODUCTS](#)
- > [JOHNSTON AND JEFF LTD](#)
- > [RSPB](#)
- > [SATURN PETFOOD](#)
- > [SINCLAIR ANIMAL & HOUSEHOLD CARE LTD](#)
- > [SUPREME PETFOODS LTD](#)
- > [THOMPSON AND CAPPER](#)
- > [TOWN & COUNTRY PETFOODS LTD](#)
- > [VINE HOUSE FARM](#)
- > [VITALIS AQUATIC NUTRITION](#)
- > [WAFCOL](#)
- > [WAGG FOODS LTD](#)

Pet Food Ingredient Suppliers

- > [ALBA PROTEINS](#)
- > [ALLTECH \(UK\) LTD](#)
- > [CALEDONIAN PETFOODS LTD](#)
- > [DEVENISH NUTRITION](#)
- > [DSM NUTRITIONAL](#)
- > [GB SEEDS](#)
- > [GEL SYSTEMS LTD](#)
- > [JOHN POINTON & SONS LTD](#)
- > [PACIFIC PROTEINS LTD](#)
- > [POORTMAN \(LDN\) LTD](#)
- > [PREMIER PET NUTRITION](#)
- > [PROSPER DE MULDER LTD](#)
- > [PROVIMI](#)
- > [RETTENMAIER UK LTD/ JRS NUTRITION](#)
- > [SCANBIO SCOTLAND](#)
- > [TROUP NUTRITION GB](#)



Link: www.pfma.org.uk/members-of-pfma/

Different Types of Pet Food

Commercially Prepared

Complete

Complementary

(treats, snacks, mixers)

Raw

Frozen &
Freeze Dried

Cooked

Dry & Wet

Raw

Cooked

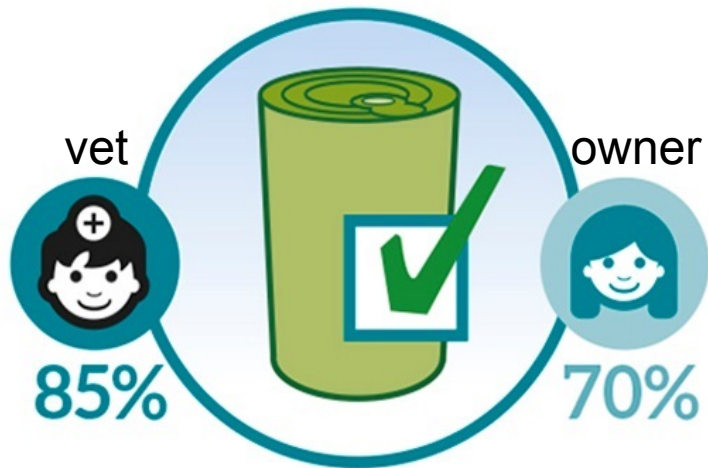
Home-made

Raw

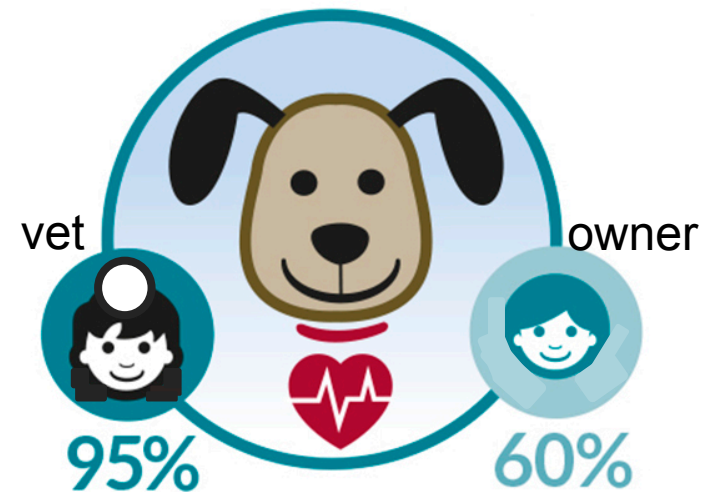
Cooked

Benefits of Prepared Pet Food

- Nutritionally balanced and complete
- Breed specific and life stage diets
- Research and development
- Nutritional advantages (functional ingredients, dietetics)
- Environmental advantages

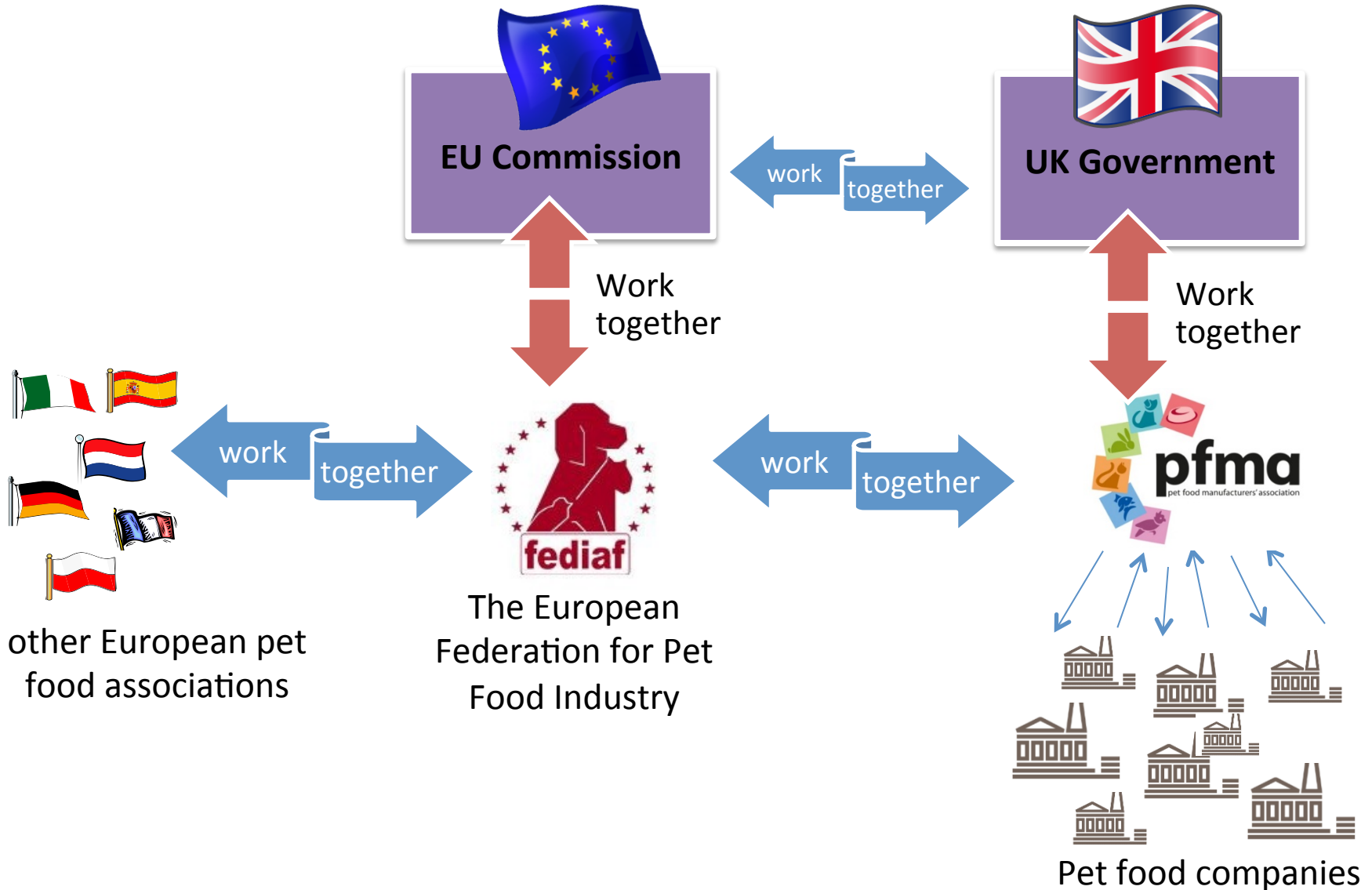


agree that commercially prepared pet food provides optimum nutrition when fed correctly



agree pets are living healthier lives and advanced nutrition played a key role

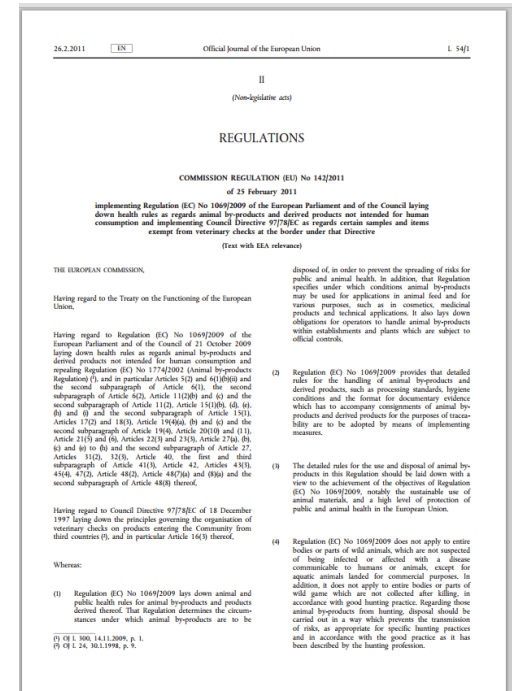
How is the industry regulated?



Pet Food Legislations

Over 50 pieces of legislation on:

- Animal By-Products →
- Labelling
- Additives
- Feed Hygiene
- TSE (*Transmissible Spongiform Encephalopathies*)
- GM (*Genetically modified organisms*)
- PARNUTS (Dietetics)
- Environmental issues
- Weights and Measures



Industry Guidelines & Codes of Practice

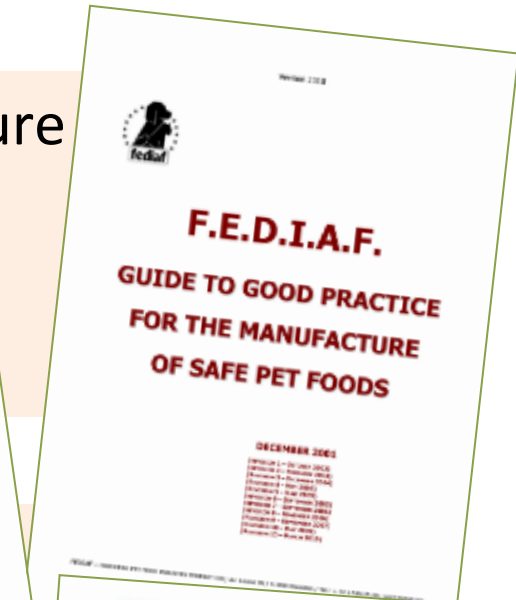
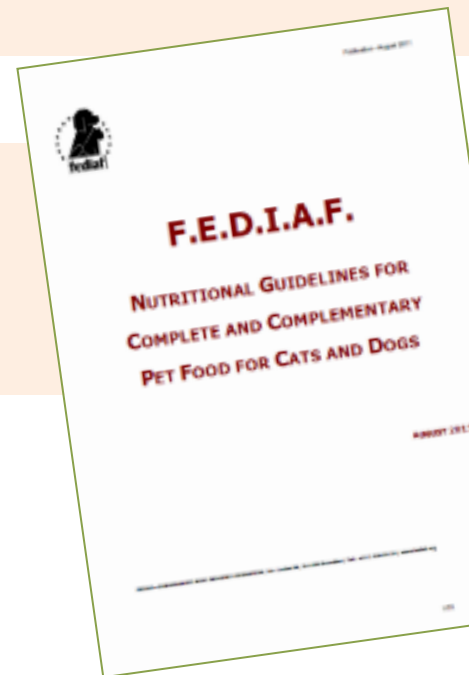
Raising the standards for the manufacturers



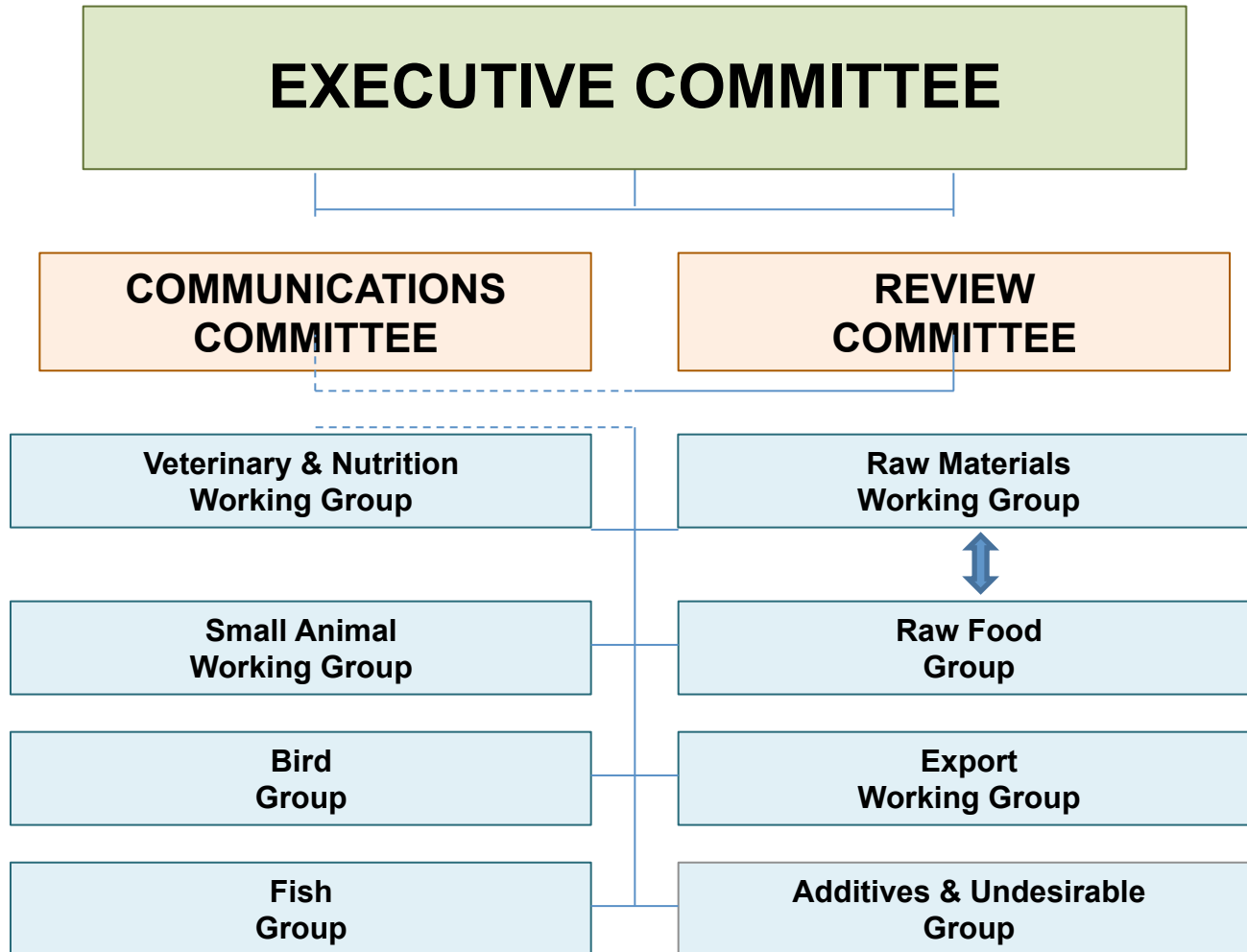
- Guide to Good Practice for the Safe Manufacture of Pet Food
- Code of Good Labelling Practice for Pet Food (communications)

FEDIAF Nutritional Guidelines

- for Cats and Dogs
- for Pet Rabbits



PFMA Committees & Groups





TOP TEN PETS

1	Fish in tanks	15-20 million	
2	Fish in ponds	15-20 million	
3	Dogs	8.5 million	
4	Cats	8 million	
5	Rabbits	900,000	
6	Indoor birds	700,000	
7	Domestic Fowl	600,000	
8	Guinea pigs	500,000	
9	Hamsters	300,000	
10	Horses	300,000	



UK Pet Food Market

PET FOOD MARKET DATA

PFMA is the principal trade body representing the UK pet food industry. Our 76 member companies account for over 90% of the UK market.



EUROPEAN MARKET



Annual sales of pet food products: 








Volume: **8.5 million tons**
Turnover: **€ 19.5 billion**

Top 5 pets in Europe



Who we work with

PFMA has frequent discussions with many other bodies and contacts

-  FSA, Trading Standards
-  Defra, APHA
-  MPs, APGAW, PAC, Welfare Organisations (RSPCA etc)
-  BPC, BMPA, FABRA, UKRA, BAFSAM, PFI, BRC
-  BVA, BVNA, BSAVA
-  Universities
-  Industry experts



Important Issues

Current and future focuses of PFMA

- 🐾 Real truth about Pet Food
- 🐾 Pet Obesity prevention
- 🐾 Education on responsible pet ownership
- 🐾 Additive re-authorisation
- 🐾 Undesirable substances maximum levels
- 🐾 Interpretation issues with regulations
- 🐾 Imports/exports issues
- 🐾 Nutritional guidelines & PARNUTS
- 🐾 Labelling



Pet Obesity Campaign

Cat Size-O-Meter

Size-O-Meter Score:

Score	Weight Status	Characteristics
1	Very Thin More than 20% below ideal body weight	<ul style="list-style-type: none"> Ribs, spine and hip bones are very easily seen (in short haired pets) Pronounced waist Obvious loss of muscle mass
2	Thin Between 10-20% below ideal body weight	<ul style="list-style-type: none"> Ribs, spine and hip bones are easily seen Obvious waist Very little belly fat
3	Ideal	<ul style="list-style-type: none"> Ribs, spine and hip bones are easily felt Visible waist A small amount of belly fat
4	Overweight 10-15% above ideal body weight	<ul style="list-style-type: none"> Ribs, spine and hip bones are hard to feel No defined waist Slightly sagging belly
5	Obese More than 15% above ideal body weight	<ul style="list-style-type: none"> Ribs, spine and hip bones are not visible but can be felt No waist can be seen Heavy fat pads on belly - skin rolls

Derived from WGSF established by Luffman (2011) Development and validation of a body condition score system for cats. A. Luffman (2011) Home & Veterinary - Evaluation of previous methods as an assessment of body composition of dogs and cats.

Dog Size-O-Meter

Size-O-Meter Score:

Score	Weight Status	Characteristics
1	Very Thin More than 20% below ideal body weight	<ul style="list-style-type: none"> Ribs, spine and hip bones are very easily seen (in short haired pets) Obvious loss of muscle bulk No fat can be felt under the skin
2	Thin	<ul style="list-style-type: none"> Ribs, spine and hip bones easily seen Obvious waist and abdominal tuck Very little fat can be felt under the skin
3	Ideal	<ul style="list-style-type: none"> Ribs, spine and hip bones easily felt Visible waist with an abdominal tuck A small amount of fat can be felt
4	Overweight	<ul style="list-style-type: none"> Ribs, spine and hip bones are hard to feel Waist barely visible with a broad back Layer of fat on belly and at base of tail
5	Obese	<ul style="list-style-type: none"> Ribs, spine and hip bones extremely difficult to feel under a thick layer of fat No waist can be seen and belly may droop significantly Heavy fat pads on lower back and at the base of the tail

Please note
There are some cases where the natural shape of a dog may mean this simple system doesn't translate as easily. For example, Whippets and Staffies tend to have lean physiques while a Weimaraner will have a broader shape. A Rottweiler will have a nice fluffy coat for you to contend with. If you need help using the tool, download a hard copy version and take it to your local vet or pet care professional for advice.

Your pet is a healthy weight
 Seek advice about your pet's weight
 Seek advice as your pet could be at risk

Rabbit Size-O-Meter

Size-O-Meter Score:

Score	Weight Status	Characteristics
1	Very Thin More than 20% below ideal body weight	<ul style="list-style-type: none"> Hip bones, ribs and spine are very sharp to the touch Loss of muscle and no fat cover The rump area curves in
2	Thin Between 10-20% below ideal body weight	<ul style="list-style-type: none"> Hip bones, ribs and spine are easily felt Loss of muscle and very little fat cover Rump area is flat
3	Ideal	<ul style="list-style-type: none"> Hip bones, ribs and spine easily felt but are rounded, not sharp - ribs feel like a pocket full of peas! No abdominal bulge Rump area is flat
4	Overweight 10-15% above ideal body weight	<ul style="list-style-type: none"> Pressure is needed to feel the hip bones Some fat layers The rump is too
5	Obese	

Please note
Getting hands on is the key to this simple system. Whilst the pictures in the Rabbit Size-O-Meter will help, it may be difficult to judge your pet's body condition purely by sight alone. Some guinea pigs have long coats that can disguise ribs, hip bones and spine, while a short coat may highlight these areas. You will need to gently feel your pet which can be a pleasurable bonding experience for both you and your guinea pig.

Your pet is a healthy weight
 Seek advice about your pet's weight
 Seek advice as your pet could be at risk

Bird Size-O-Meter

Size-O-Meter Score:

Score	Weight Status	Characteristics
1	Very Thin	<ul style="list-style-type: none"> Breast bone is very sharp to the touch Loss of breast muscle and no fat cover
2	Thin	<ul style="list-style-type: none"> Breast bone is easily felt and sharp Loss of breast muscle and little or no fat cover
3	Ideal	<ul style="list-style-type: none"> Breast bone easily felt but not sharp Breast muscle rounded
4	Overweight	<ul style="list-style-type: none"> Pressure is needed to feel the breast bone Well rounded breast muscle and some fat cover May see some fat below where breast bone ends
5	Obese	<ul style="list-style-type: none"> Very hard or not possible to feel the breast bone Very rounded muscle and possible to feel or see fat moving under the skin Fat also obvious below where the breast bone ends

How to check your birds shape

- Getting hands on is key. Not all birds are used to being handled but it is difficult to judge if your bird is the right weight by sight. You will need to gently feel your bird, using restraint if necessary.
- Use bare hands and not gloves to handle birds as then you can judge the tightness of grip. If you need to protect yourself - use a cloth or towel.
- Small birds can be held in one hand with the neck between the first and second finger and the bird's back against the palm so that the wings and body are gently restrained in the closed hand.
- Larger parrots may take two people, one to hold the bird and the other to assess its body condition. A towel or cloth is used over the open hand to grasp the bird firmly behind its head and neck. The towel is then wrapped around the wings and body to prevent flapping. Gently stroking the top of the head and talking to the bird gently will help to calm it.
- Gently run your fingers down the centre of the front of the bird in the midline over the breast area. You should be able to feel a bony ridge (known as the keel or breast bone). This should be easy to feel but not too prominent.
- Next, run your fingers at right angles to the keel across the breast muscles. If these feel shrunken so that the keel sticks out prominently your bird is too thin. If the breast muscles are just rounded but you can still feel the keel your bird is in good condition. If you cannot feel the keel and the muscles are very rounded or you can feel or see fat moving underneath the skin your bird is overweight.
- The breast muscle can also vary in size depending on how much exercise your bird gets - so if a fluff a lot it will have larger firmer breast muscles than a bird who does not fly. However, the same criteria still apply in assessing body condition - prominence of the bony keel and presence of fat underneath the skin.

Your pet is a healthy weight
 Seek advice about your pet's weight
 Seek advice as your pet could be at risk

Guinea pig Size-O-Meter

Size-O-Meter Score:

Score	Weight Status	Characteristics
1	Very Thin More than 20% below ideal body weight	<ul style="list-style-type: none"> Each individual rib can be felt easily, hips and spine are prominent and extremely visible and can be felt with the slightest touch. Under abdominal curve can be seen. Spine appears hunched.
2	Thin Between 10-20% below ideal body weight	<ul style="list-style-type: none"> Each rib is easily felt but not prominent. Hips and spine are easily felt with no pressure. Less of an abdominal curve can be seen.
3	Ideal	<ul style="list-style-type: none"> Ribs are not prominent and cannot be felt individually. Hips and spine are not visible but can be felt. No abdominal curve. Chest narrower than hind end.
4	Overweight 10-15% above ideal body weight	<ul style="list-style-type: none"> Ribs are harder to distinguish. Hips and spine difficult to feel. Feet not always visible.
5	Obese 15-20% above ideal body weight	<ul style="list-style-type: none"> Ribs, hips and spine cannot be felt or can with mild pressure. No body shape can be distinguished. Under-belly touching floor when Guinea-pig is in standing position, feet cannot be seen.

Please note
Getting hands on is the key to this simple system. Whilst the pictures in Guinea pig Size-O-Meter will help, it may be difficult to judge your pet's body condition purely by sight alone. Some guinea pigs have long coats that can disguise ribs, hip bones and spine, while a short coat may highlight these areas. You will need to gently feel your pet which can be a pleasurable bonding experience for both you and your guinea pig.

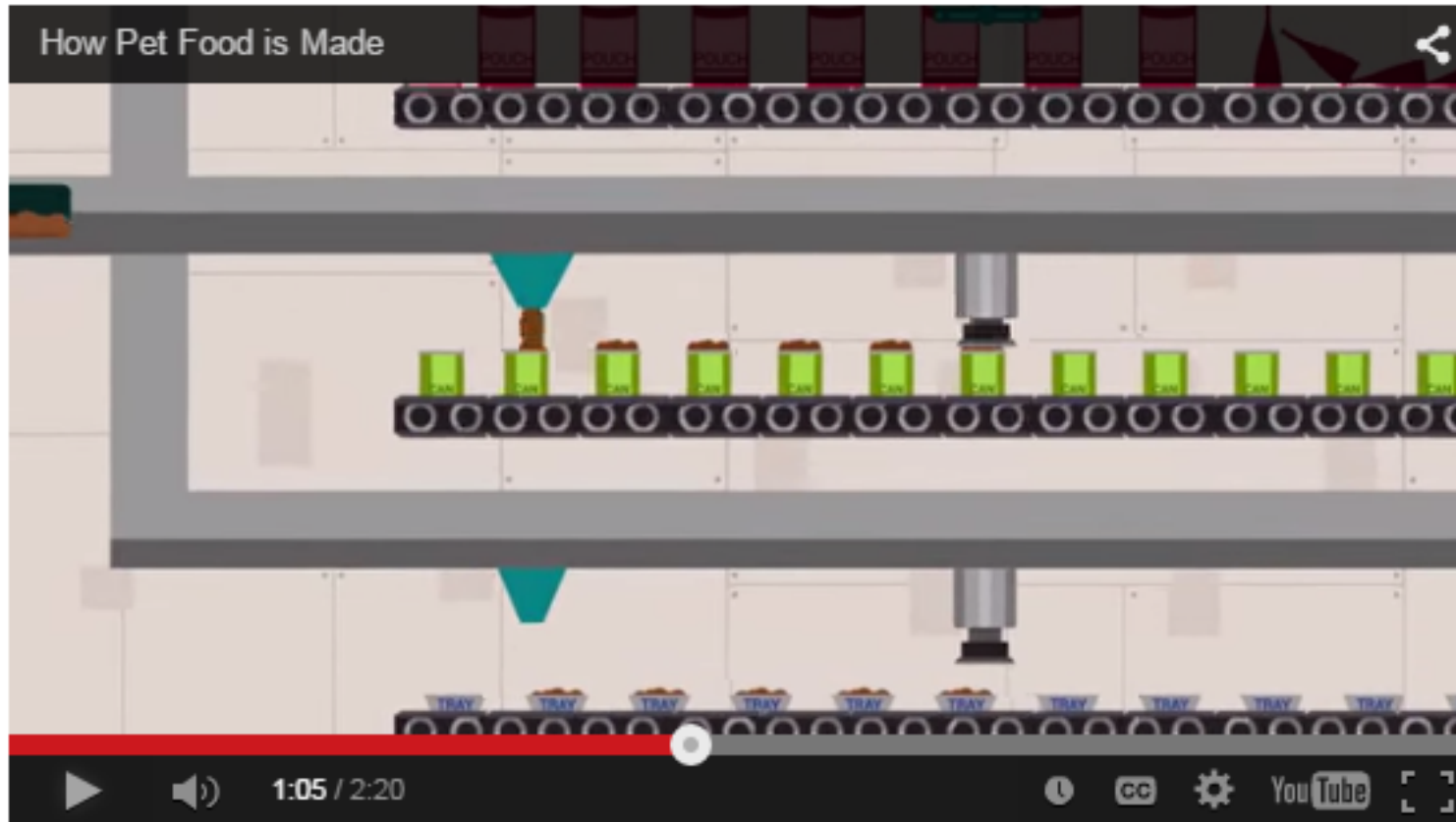
Your pet is a healthy weight
 Seek advice about your pet's weight
 Seek advice as your pet could be at risk

pfma
pet food manufacturers association
www.pfma.org.uk



How is pet food made? What is in it?

Watch our short animated film



www.youtube.com/watch?v=NbOnQSZ_RjA

Pet Food Fact Sheets

Are Homemade Diets a Viable Alternative?



FACT SHEET

pfma
pet food manufacturers association

For some owners providing home prepared meals for their pet is an appealing idea. Shopping, food selecting the ingredients and preparing the meal seems a good way to show their love. While this sounds straight forward enough, the reality is different and unless you have developed a meal plan with a dedicated veterinary nutritionist, there is a strong risk you won't be providing the necessary nutrition. A dog for instance needs around 37 nutrients in his daily diet for healthy bodily function and a cat, over 40.

Members of the PFMA formulate their diets in line with the FEDIAF Nutritional Guidelines for Cats and Dogs. These guidelines detail the nutritional needs of cats and dogs at the varying life-stages from growth to senior and they are peer reviewed by independent veterinary nutrition experts throughout Europe.

Providing a pet with a 'complete' pet food is akin to a person having their meals routinely put together by a human nutritionist.

Most recipes for homemade diets are nutritionally deficient.

A study at the University of California, Davis School of Veterinary Medicine analysed 200 different recipes for home prepared dog foods. Recipes were selected from websites, veterinary text books, and pet care books. The findings highlighted that **95%** of the recipes were deficient in at least one essential nutrient and **84%** were lacking in multiple required nutrients. While providing a nutritionally balanced diet from home is not impossible, these results show it is a complicated task with very little margin for error. Calorie control can also be difficult.

Can I home cook occasionally?

An occasional home prepared meal can be enjoyed by dog and owner alike. If it is 'occasional' it won't interrupt the nutritional balance of the overall feeding regime but please be careful to avoid foods that are toxic to pets.

Human foods to avoid

Certain foods can be toxic for pets including onions, garlic, raisins, grapes, chocolate, avocados, certain nuts and xylitol-sweetened foods.

Experts formulated diets

Most pet food products on the market are designed to provide total nutrition for pets. These products will have the term 'complete' on the pet food packets. 'Complete' is a legal definition and the products made by law contain all the nutrients a pet needs in the right proportions. Balancing the right quantities of protein, fat, fibre and carbohydrates along with the specific vitamins, minerals, fatty acids and amino acids is complex but that is the day in day out responsibility of pet food manufacturers.

Daily Diet
A dog needs around 37 nutrients
a cat 40+

More advice on diets and nutrition can be found at www.pfma.org.uk/

University of California, Davis School of Veterinary Medicine 'Homemade dog food recipes can be risky business, study finds' (7) July 2012
www.hill.org



FACT SHEET

Additives

Used in both human and pet food to help ensure quality, safety, shelf life, appearance, odour or taste. Some additives are derived from natural materials (usually plants) and others are manufactured

pfma
pet food manufacturers association

pet food is strictly regulated

operates to stringent standards and complexities of legislation to produce pet foods of the safety. As part of this, all prepared pet foods of the PFMA are required to comply with regulations 2015. These regulations cover the use of additives in pet food and enforce EU legislation.

to a rigorous authorization process

additives on the grounds of safety, technical need or precision process is rigorous and additives are. As part of this process, if safety requirements are not approved for use regardless of how the particular additive might be.

Examples of the use of additives in pet food:

FOOD SAFETY AND LONGEVITY
Preservatives and antioxidants are two specific categories of additives that are very important for maintaining food safety as well as extending the shelf life of a product. Spoiled foods if consumed carry the risk of food poisoning and both preservatives and antioxidants help prevent spoilage from bacterial contamination and stop fats from going rancid.

BENEFITS OF ANTIOXIDANTS
The use of antioxidants goes beyond maintaining food safety and shelf life. Over the years research has emerged highlighting the benefits of antioxidants. Some manufacturers may add nutritional antioxidants e.g. vitamins C & E to pet foods to help promote good health and combat free radical damage to the body.




FACT SHEET

Understanding Pet Food Labels

Pet food labelling falls under EU legislation for animal feed. It doesn't have it's own rules for human food either. Some are more than the pet owner.

with key pieces of information including a 'Composition', additives and a nutrition label along with feeding guidelines.

pfma
pet food manufacturers association

BLOGGO COMPLETE PET FOOD FOR ADULT DOGS

The nutritional requirements of individual dogs varies according to size, age and breed. The information given below is a guide only, more detailed information can be obtained from the contact numbers given below.

feeding together with canned dog food it is recommended that these figures are reduced and the meal is a 50:50 mix of dry or canned foods.

Amount of fresh water should always be available.

Preservatives or ingredients: meat and animal derivatives (e.g. chicken, cereals, fish and fats, minerals, various sugars).

Antioxidants (see page 10): Tocopherols (Vitamin E) 20 mg/kg, Ascorbic Acid (Vitamin C) 10 mg/kg, Copper sulphate pentahydrate 1 mg, Zinc sulphate pentahydrate 1 mg.

Antibiotic constituents (mg/kg): Penicillin G, 100 mg/kg, Chloramphenicol 10, 100 mg/kg, Streptomycin 10, 100 mg/kg, Sulfadiazine 10, 100 mg/kg.

Meat and animal derivatives - This category describes animal based ingredients used in pet foods (not including dairy which has it's own category) which are by-products of the human food industry. For instance, offal - a highly nutritious ingredient enjoyed by many people in other countries but not popular with the UK consumer. The ingredients come from animals slaughtered under veterinary supervision.

What does 'Meat and animal derivatives (e.g. chicken)' mean?
Each pet food recipe includes a blend of different ingredients which are all combined into a food which will meet, in part or entirely, the daily nutritional requirements of the pet. The 4% declaration is a legal labelling requirement which represents the minimum percentage content of the named ingredient, for example chicken. This is guaranteed to be present by the manufacturer. Other nutritious meat and animal derivatives can also be present.

www.pfma.org.uk



Learn more about our Fact Sheets: www.pfma.org.uk/fact-sheets/


Calorie Content of Pet Food Dogs & Cats Daily Energy Requirement (DER)

A Guide for Veterinary Professionals

FACT SHEET

Example Case Study for Complete Dry Dog Food:

Levin is an adult medium size breed with 13.5 kg bodyweight and moderate activity (1 to 2 hours low impact activity per day). His main diet is the following dry complete product.



Analytical Constituents of the product:

Crude Protein	25%
Fat Content	7%
Crude Ash	12%
Crude Fibre	1.2%
Calcium	0.75%
Phosphorus	0.72%
Moisture	1.00%

What is the caloric content of Levin's dry food? (Living table 1)

Moisture	Energy (Kcal) content of each nutrient in the pack (Kcal/100g food)	ME Density of the product (Kcal/Kg)
Protein 25%	110 x 25 = 275	Living formula 21
Fat 7%	150 x 7 = 105	875 + 105 = 980 Kcal/100g
Carbohydrate (average for wheat or NFE) 67% (Living formula 1)	41 x 25 = 1025	

What is Levin's daily energy requirement? (DER)

Table 2. Recommended Daily Energy Requirements (DER) in relation to activity

Activity level	DER (Kcal/kg/day)
Low activity (1 - 1.5 hrs of walking on the lead)	95
Low activity (1 - 1.5 hrs) (Low impact activity)	110 ✓
Moderate activity (1 - 2 hrs) (High impact activity)	125
Moderate activity (1 - 2 hrs) (Working dogs, e.g. sheep dogs)	150 - 175
High activity (2 - 3 hrs) (Working dogs)	240 - 1240
High activity under adverse conditions (Working dogs, full time in extreme cold)	

How many grams of his food should Levin eat each day?

Formula 5: Amount of food needed daily (g)

$$\frac{\text{DER of individual dog} \times 1000}{\text{ME content of the food (Kcal/Kg)}} = \frac{775 \times 1000}{306} = 253\text{g}$$

Levin needs approximately 253 grams of his food per day. This is within the range recommended by the manufacturer, as indicated by the feeding guidelines on the pack highlighted in the following table.

Weight (kg)	Grams/Day	Weight (kg)	Grams/Day	Weight (kg)	Grams/Day
1-3	24-33	25-30	200-240	55-60	520-580
3-5	34-43	30-35	240-280	60-65	560-590
5-10	102-140	35-40	280-310	65-70	600-630
10-15	142-217	40-45	310-330	70-75	630-640
15-20	217-263	45-50	330-350	75-80	640-660
20-25	263-298	50-55	350-370		

www.pfma.org.uk

Page 2


FACT SHEET

A Guide for Veterinary Professionals

A Guide for Veterinary Professionals

FACT SHEET

Calculating the energy content of prepared pet food and daily energy requirements of adult dogs and cats



Introduction

Providing accurate feeding recommendations remains an ongoing challenge for pet food companies, and the feeding guidelines are the energy requirements of an individual pet, no single formula will allow us to calculate the energy requirements for all dogs or cats. However, the equations provided in nutritional guidelines can provide a theoretical average for a specific group of animals. Using this information as a starting point, each individual animal should be fed to their ideal body condition score. PFMA body condition charts can be found on www.pfma.org.uk/pet-size-a-meter

Please note:

- Any analysis of the food provided by the manufacturer will be the most accurate for a specific product and might be slightly different from the amounts calculated using generic formulas.
- The metabolizable energy (ME) of processed pet foods can be calculated using Modified Answer factors. They are based on an average digestibility of 90% for fat, 85% for carbohydrate (NFE) and 80% for protein (Federal Nutritional Guidelines).
- This information is for maintenance (adult) prepared pet food, and might not be accurate for home-made or other diets.

Table 1. Caloric Density of Energy Producing Nutrients in Prepared Dog Food (Federal Nutritional Guidelines 2014, page 107)

Nutrient	ME (Metabolizable Energy) Kcal/g	Energy content of each nutrient in the pack (Kcal/100g food)
Fat	8.5	% fat x 8.5
Protein	3.5	% protein x 3.5
Carbohydrate* (average for wheat or NFE)	3.5	% NFE x 3.5

Formula 1. Calculating % Carbohydrate (NFE) and % moisture when not listed on the package.

$$\% \text{ Carbohydrate (NFE)} = 100 - (\% \text{ protein} + \% \text{ fat} + \% \text{ fibre} + \% \text{ moisture} + \% \text{ ash})$$

Formula 2. Dogs Daily Energy Requirements (DER)

$$\text{Average DER for different stages or activity levels (Kcal ME/Kg)} \times \text{Body weight (kg)}^{0.75}$$

Formula 3. Calorie content of the whole pack (Kcal/Kg)

$$\text{ME fat} + \text{ME protein} + \text{ME carbohydrate} \times 10$$

Formula 4. Cats Daily Energy Requirements (DER)

$$\text{Average DER for different stages or activity levels (Kcal ME/Kg)} \times \text{Body weight (kg)}^{0.75}$$

watch out! We are often contacted by pet owners who have been surfing the net for information and have come across US based sites. It's important to note that the legislation in the UK/Europe is different to the US and it's good to check where the information provider is based. The WSAVA (World Small Animal Veterinary Association) provides great guidance on how to get accurate, professional information on pet care.

www.pfma.org.uk

Tools and Recourses; Pet Size-O-Meters

Cat Size-O-Meter

Size-O-Meter Score:

Characteristics:

1 Very Thin
More than 20% below ideal body weight



- Ribs, spine and hip bones are very easily seen (in short haired pets)
- Pronounced waist
- Obvious loss of muscle mass with no belly fat

2 Thin
Between 10-20% below ideal body weight



- Ribs, spine and hip bones easily seen
- Obvious waist
- Very little belly fat

3 Ideal



- Ribs, spine and hip bones easily felt
- Visible waist
- A small amount of belly fat

4 Overweight
10-15% above ideal body weight

5 Obese
More than 15% above ideal body weight



Dog Size-O-Meter

Size-O-Meter Score:

Characteristics:

1 Very Thin



- Ribs, spine and hip bones are very easily seen (in short haired pets)



Rabbit Size-O-Meter

Characteristics:

es, ribs and spine are very sharp to the touch muscle and no fat cover hip areas curves in



Bird Size-O-Meter

Size-O-Meter Score:

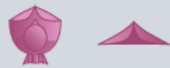
Char

1 Very Thin



• Breast

2 Thin



• Breast

3 Ideal



• Breast

4 Overweight



• Press

5 Obese



• Very

Guinea pig Size-O-Meter

Size-O-Meter Score:

Characteristics:

1 Very Thin
More than 20% below ideal body weight



Each individual rib can be felt easily, hips and spine are prominent and extremely visible and can be felt with the slightest touch. Under abdominal curve can be seen. Spine appears hunched.

2 Thin
Between 10-20% below ideal body weight



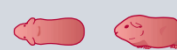
Each rib is easily felt but not prominent. Hips and spine are easily felt with no pressure. Less of an abdominal curve can be seen.

3 Ideal



Ribs are not prominent and cannot be felt individually. Hips and spine are not visible but can be felt. No abdominal curve. Chest narrower than hind end.

4 Overweight
10-15% above ideal body weight



Ribs are harder to distinguish. Hips and spine difficult to feel. Feet not always visible.

5 Obese
15-20% above ideal body weight



Ribs, hips and spine cannot be felt or can with mild pressure. No body shape can be distinguished. Underbelly touching floor when Guinea-pig is in standing position, feet cannot be seen.



thy weight
if your pet's weight
your pet could be at risk

key to this simple system.
is Rabbit Size-O-Meter will
your pet is the right weight
has its difficulties. A long
, hip bones and the spine,
make a rabbit's appearance
highlight these areas. You will
our pet which can be a
pariance for both of you!

- Your pet is a healthy weight
- Seek advice about your pet's weight
- Seek advice as your pet could be at risk

Please note
Getting hands on is the key to this simple system. Whilst the pictures in Guinea pig Size-O-Meter will help, it may be difficult to judge your pet's body condition purely by sight alone. Some guinea pigs have long coats that can disguise ribs, hip bones and spine, while a short coat may highlight these areas. You will need to gently feel your pet which can be a pleasurable bonding experience for both you and your guinea pig.

