PURINA® PRO PLAN® Vet Nurse Symposium 2024

Empowering the Vet Nurse Journey

Basics of the Petfood Industry: Labelling

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Conflict of interest/disclosures

- Independent clinical nutrition consultant
- Consulting work for a variety of pet food companies.
- Speaker or attendee in continuing education events sponsored or organized by pet food companies
- Part of the scientific advisory board of FEDIAF (no fee).

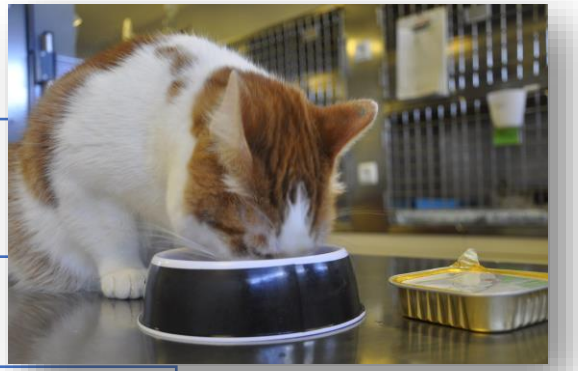
Introduction

- Pets, healthy or with disease, need a feeding plan
- In order to choose the best feeding plan, the nutritional status of the patient should be assessed
- After that → recommendations

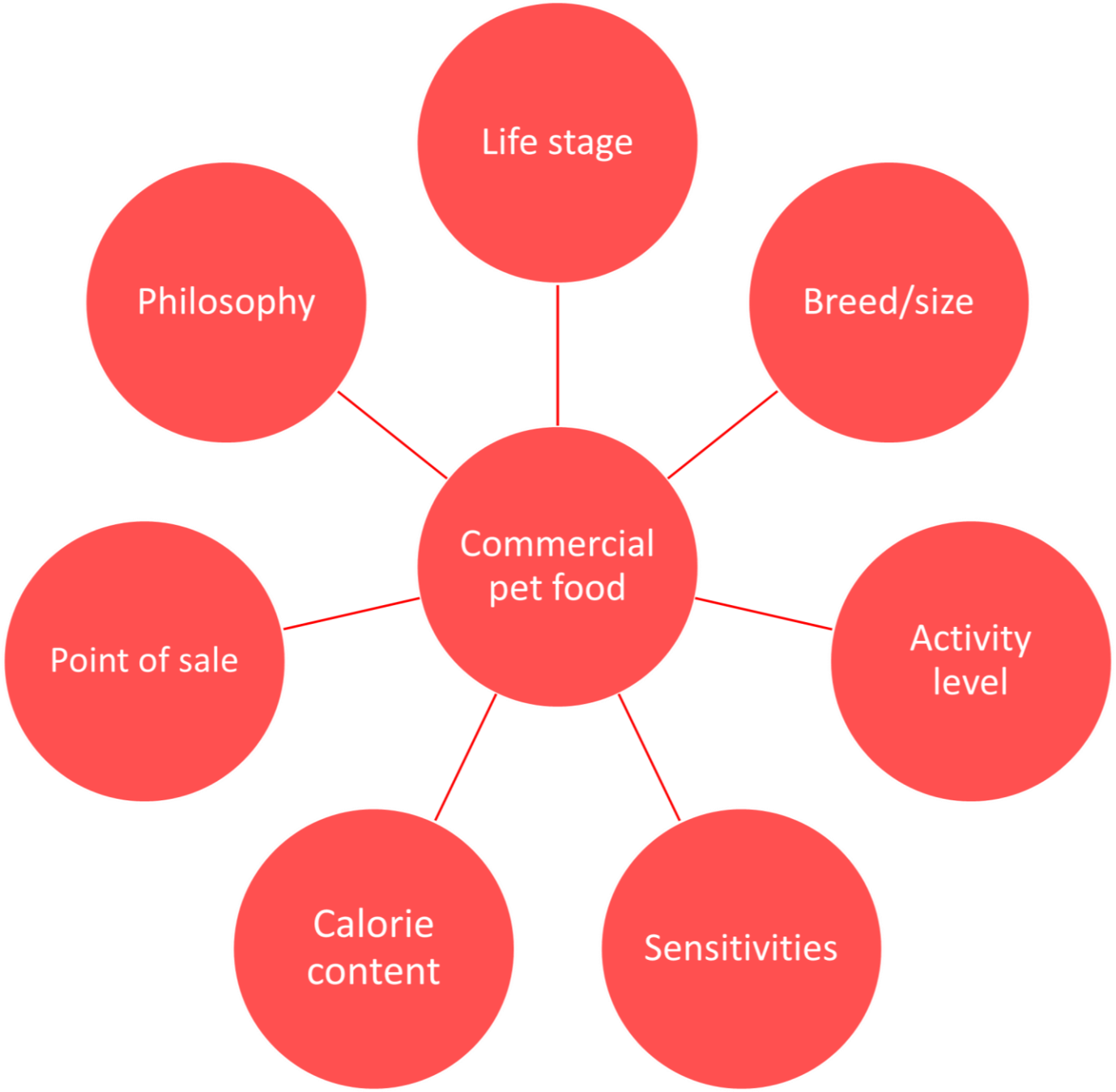
Diet

Amounts

Feeding method



- Not one best diet for all pets
- Multiple options can be **adequate** for one pet



Hundreds of choices from multiple manufacturers

- ❑ Nutritional assessment → diet profile
- ❑ Assess diet quality

What affects the quality of an **ingredient**

Microbiological safety

Free of contaminants

Nutritional profile

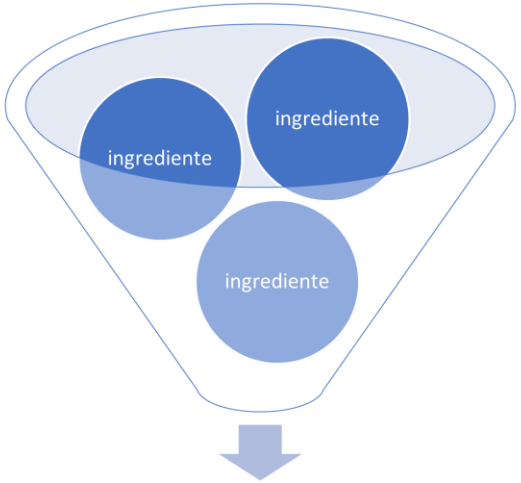
Ingredient quality

No oxidation products

Digestibility

Bioavailability

What affects the quality of a **complete diet**



Ingredient quality

+

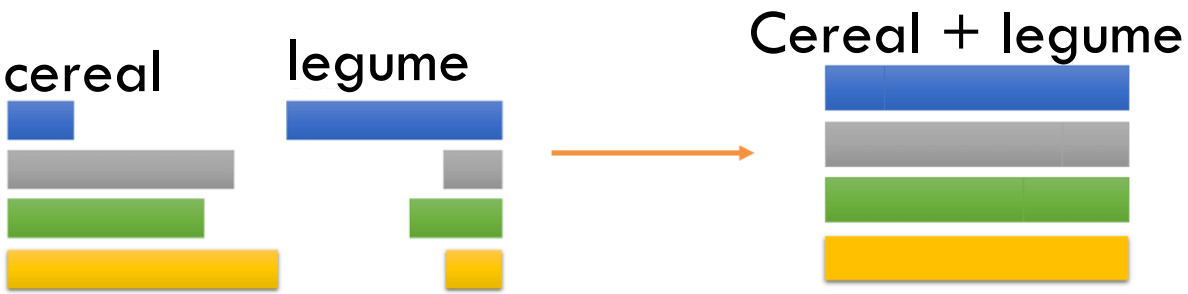
Final product aspects

Ingredient quality & interactions

Processing (cooking, packaging, storage…)

Does the diet do its job

Complementation



Visible vs invisible

How can we assess the pet food quality

WSAVA Global Nutrition Committee

- Pet food is legislated + important component of self regulation
- Label: limited information

To choose a pet food, it is important to use label information + assess the <u>manufacturer</u>

What does the label tell us..
And what doesn't tell us

Label: **legal document**

- In EU: legislation (CE 767/2009 + others) defines labelling requirements.
- FEDIAF (industry trade association) has a "code of good labelling practice" (https://fediaf.org/self-regulation/labelling.html) to help their members apply EU law
    - does not approve pet food!
    - does not have regulatory authority
- Mandatory vs voluntary declarations

Label information: Product description & target species

- Most important info: Nutritional adequacy → is the diet **complete** for the target species and life stage
- If not complete
  - "complementary" (treats, mineral feeds…)
  - Feed material

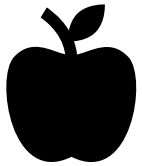
Adult maintenance
Growth/Reproduction

How is the nutritional adequacy determined?

❑ Can be affected by processing, incorrect database information, unknown bioavailability

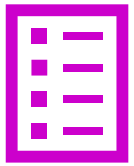
ingredients

Nutrient profile

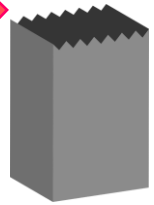


Estimated vs analyzed

Final composition

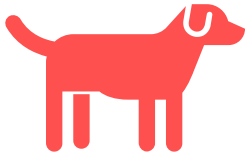


Vs requirement tables



Complete "on paper"

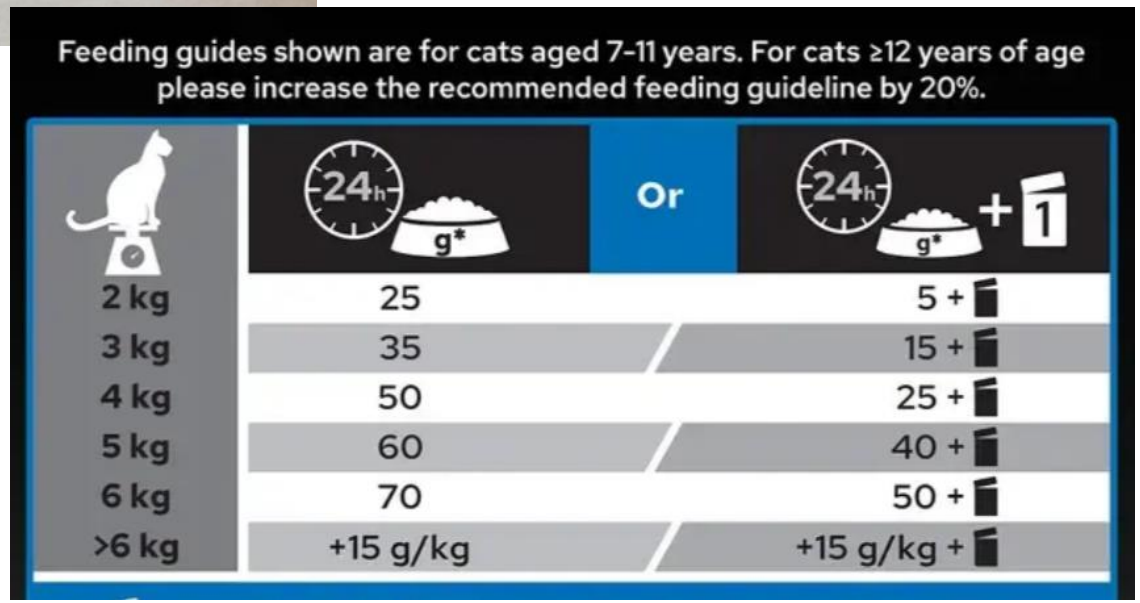
Diet **formulated to meet** requirements



❑ Pet food can undergo additional testing → digestibility, palatability, ME, nutritional adequacy, clinical trials…

Instructions for proper use

- **Recommended** storage guidelines (esp. once opened)
- Provide daily ration for life stage, life style, and size of pet

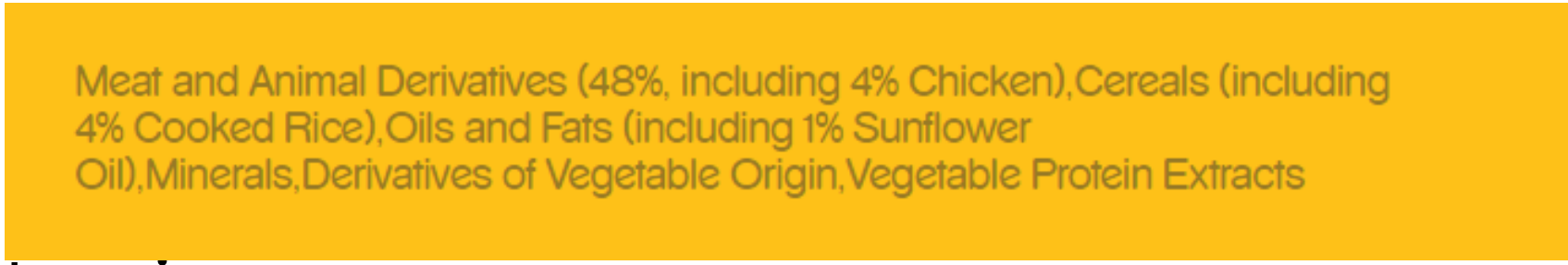


2 kg	25	5 +
3 kg	35	15 +
4 kg	50	25 +
5 kg	60	40 +
6 kg	70	50 +
>6 kg	+15 g/kg	+15 g/kg +

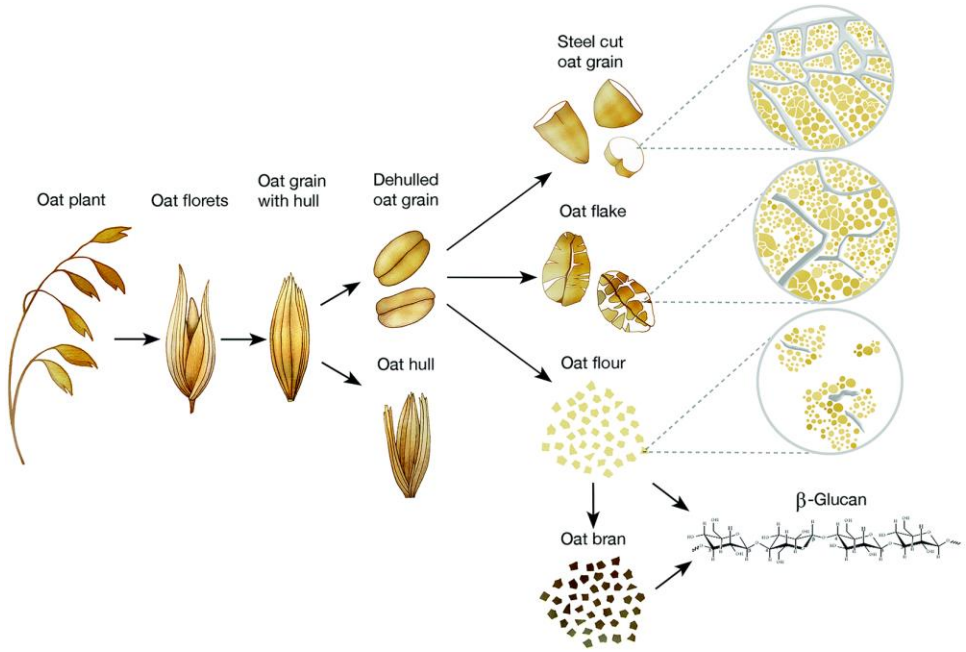
- Recommendations as units per day
- +/- detailed
- Estimated by manufacturer using energy requirement formulas & ME content of the product

Feed material declaration

- what is in there?
  - Raw materials
  - Individual vs defined categories
- Written in descending order of weight (fresh matter)
  - Amounts voluntary
- The name of the ingredient does not provide information on the nutritional value or safety of the ingredient or the final product
  - No amounts, nutrient profile, bioavailability…



- Ingredient based marketing and claims are common
  - E.g. grain free, “no soy”, organic, natural
- Pet food ranking websites are heavily based on ingredient lists and are not useful as a quality gauge
- Location on the list is not important and can be “gamed”
  - Moisture content
  - Portioning



Nutrients ≠ Ingredients

Meat ≠ Protein

A COMPLETE PET FOOD FOR ADULT DOGS
COMPOSITION: Turkey (80%), Peas (5%), Sweet Potato (4%), Carrots (4%), Apples (4%), Spinach (1%) Yucca Extract, Green Tea Extract, Dicalcium Phosphate. **ADDITIVES PER KG:** Nutritional Additives: Vitamins: Vitamin A 1,000IU, Vitamin D 100IU, Vitamin E 14mg. **TRACE ELEMENTS:** Zinc sulphate monohydrate 50.1mg, (Zn 18.3mg); Ferrous sulphate monohydrate 20mg, (Fe 6mg); Copper (II) Sulphate pentahydrate 7.2mg (Cu 1.8mg), Calcium iodate anhydrous 0.4mg (I 0.26mg); Selenised yeast inactivated 8.6 mg (Se 0.02mg). **ANALYTICAL CONSTITUENTS:** Protein 13% Crude Fat 9%; Crude Ash 3%; Crude Fibre 1%; Moisture 68%.
Products may contain small bone pieces 4g/100g may be present.

80 g turkey per 100 g food

Turkey can have 10-20% protein (15% average) [if breast: 30%]

80 g turkey ≈ 12 g protein

If we used a meal (60-65% protein):

$$\frac{12\ g\ protein}{100\ g\ food}\ x\ \frac{100\ g\ meal}{60\ g\ protein} = {}^{20\ g\ meal}/_{100\ g\ food}$$

- Products vs by products
  - By products: not the main goal of the industry
  - Plant based: beet pulp, wheat bran…
  - Animal: includes organ meats, intestine, etc.
    - Does not include hoofs, beaks…
    - Does not include animals that have died by other means by slaughter
    - Important role in sustainability

Fresh meat vs meals?

- Meals: rendering process
- Rendering
  - Helps with microbiological safety and handling of product, important to reduce food waste
  - Can affect nutritional value, digestibility, technological & organoleptical properties
  - Quality of the meal depends on both quality of raw material & processing factors


Animals **2014**, *4*, 254-271; doi:10.3390/ani4020254

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animals

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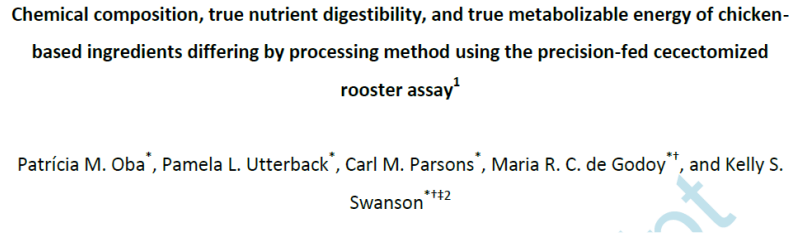
Article

The Effects of Cooking Process and Meat Inclusion on Pet Food Flavor and Texture Characteristics

Kadri Koppel [1,*], Michael Gibson [2], Sajid Alavi [2] and Greg Aldrich [2]



Chemical composition, true nutrient digestibility, and true metabolizable energy of chicken-based ingredients differing by processing method using the precision-fed cecectomized rooster assay[1]

Patrícia M. Oba[*], Pamela L. Utterback[*], Carl M. Parsons[*], Maria R. C. de Godoy[*†], and Kelly S. Swanson[*†‡2]

- ✓ Composition and safety of **final product** cannot be predicted by their presence
- ✓ Importance of expertise in formulation with all types of ingredients
- ✓ Quality control is essential for proper use of by products and meals

Additives

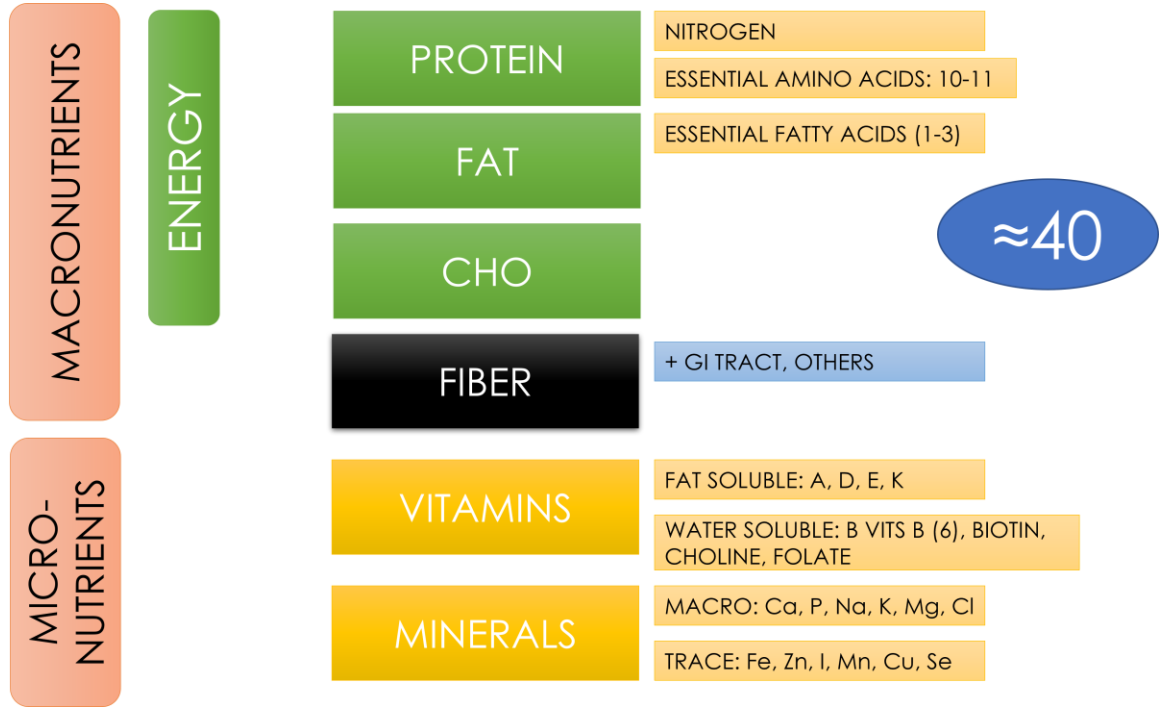
- Only authorized additives can be used but not all declared – can contact manufacturer
- Mandatory declaration
  - If a max is set for at least 1 non food producing animal (e.g. vitamin A, D, trace elements)
  - Zootechnical additives & coccidiostats/histomonostats
  - If claims
- How:
  - Functional group/category (e.g. “nutritional additives”)
  - Name and/or number (in additive positive list)
    - For vits can use consumer friendly names
  - **Added** amount (≠ final!)

Additives

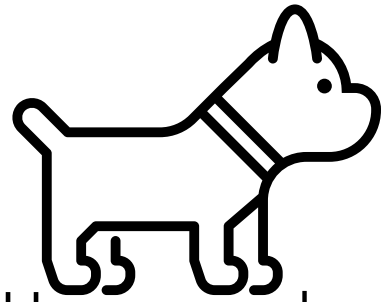
- Additives of the groups “preservatives”, “antioxidants”, “flavouring”, “colourants” with max legal level can be declared as the functional group
  - This info should be disclosed to consumer if requested

Analytical constituents

- Mandatory: crude protein, crude fat, crude fibre, ash
  - Moisture if >14%
- No details on AA, FA, vits, minerals, digestibility…
  - If declared: voluntary or claimed
- Average values (tolerances)
- Crude fibre grossly underestimates actual fibre
- Carb: not reported – by difference
- ME (kcal/kg): VOLUNTARY (NRC 2006)
- ***Units: as fed***



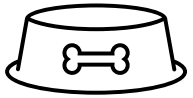
- As fed: useful to know what is there but not for comparison!
  - Different calorie content (water, fibre…)



How much protein will Fluffy get with each diet?
Energy needs: 600 kcal/day

% protein
DM = 24.4%

Diet A
22% protein,
10% H2O
4000 kcal/kg



Diet B
22% protein
10% H2O
3500 kcal/kg

- $600 \frac{kcal}{d} \times \frac{1g}{4kcal} = 150 g/d$
- 22% protein → 33g protein/d

$600 \frac{kcal}{d} \times \frac{1g}{3.5kcal} = 171 g/d$

22% of 171 = 38g protein/d

- On a calorie basis: units per 100 or 1000 kcal or kJ
  - Product guides (esp veterinary diets)
  - Can be calculated with nutrient concentration and ME content of the diet
  - ASK

PER 100 KCAL

[redacted]

NUTRIENT	Unit		
Crude Protein	g	7.2	10.8
Crude Fat	g	4.1	3.6
Carbohydrates	g	10.6	8.6
Crude Fibre	g	1.2	2.0
Crude Ash	g	2.0	2.0
MINERALS			
Calcium	g	0.4	0.4
Phosphorus	g	0.2	0.3
Magnesium	g	0.04	0.04
Sodium	g	0.0	0.1
Potassium	g	0.16	0.19
Chloride	g	0.2	0.1
Iron	mg	6.43	10.53
Copper	mg	0.56	0.58
Zinc	mg	4.87	4.83
Manganese	mg	1.89	1.62
Selenium	mg	0.01	0.01
Iodine	mg	0.09	0.08

Also mandatory

- Business address (responsible for labelling) & contact information
- Traceability tools
- Net quantity
- Minimum storage life
  - Use before DD/MM/YYYY if highly perishable
  - Best before MM/YYYY

Voluntary declarations

- Raw material %
- Non mandatory additives – unless claimed
- Non mandatory nutrients – unless claimed
- Icons, logos, pictorials…
- Claims
  - substantiated, do not mislead or confuse, not denigrate other products
    - Rules for substantiation depend on claim
  - Objective & verifiable
  - Not health claims


Content claims
Component claims
Nutrient and additive claims
Negative claims
No/no added, made without … (traces ok)
Free/free from (traces not ok)
Comparative claims
Vs themselves or competitor
Increased/reduced (nutrients, E) > or <15%
Product descriptors
Recos on use of: natural, fresh, authentic/real/geniuine, organic, light
Functional claims
Nutrient function claims
Enhanced function claims
Ok support of physiological conditions (no prevention/cure/treatment)

- No regulatory definition for claims such as “holistic”, “human grade”
- Natural: No chemically synthesized ingredients & avoiding certain processing methods (before extrusion or retorting)
  - Natural with “vitamins and minerals”
- Organic/bio
- Ingredient claims on **name** are regulated (declare % inclusion)
  - *Ingredient claims: not related to health and longevity outcomes at this time*
- Nutrient claims: declare % nutrient on label
- Function claims: should be substantiated by data: ASK

Claim	Value
Flavour	0% (taste from flavouring substance)
Flavoured with	0 > X < 4%
With/contains X	≥ 4% (of each)
Rich in/high in/with extra	≥14% (of each)
X/X menu/X dinner	≥26% (of each)
All X	All materials except additives, minerals or other micronutrients, water for processing

Updating the rules on the labelling of organic pet food

The European Parliament and the Council have reached a provisional agreement on updated rules on the labelling of organic pet food, which will align them with the rules on the labelling of organic food for human consumption. For pet food to carry the EU organic logo, 95 % of all its agricultural ingredients will have to be organic. The update was necessary as the current regulation on organic labelling allows feed to be labelled as organic only if all the agricultural ingredients come from organic production, without an exemption for pet food. The agreement resulting from interinstitutional negotiations, approved in committee on 28 June 2023, is expected to be put to the vote in Parliament's plenary in September.

Interpreting Food Labels, EU

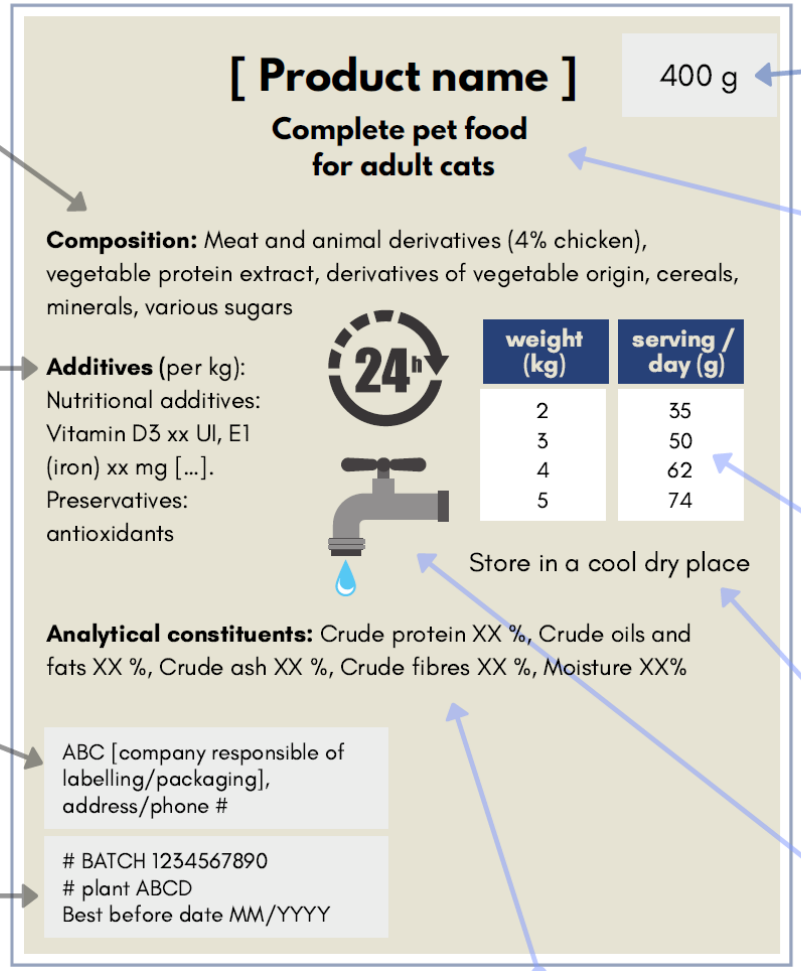
Ingredients (raw materials) are listed under "composition"

-In descending order of weight (fresh matter)
-The names can be specific or can also be named by their legal category (see example)

Label must include those nutritional additives (vitamins and minerals) with legal inclusion maximums. The amounts are those added (therefore, the overall amount of nutrient might be different depending on raw material provision and effect of processing. Other additives (like preservatives, dyes, or flavouring agents) do not have to be reported by their specific name, but the company responsible for labelling should provide this information if contacted.

Name, address and contact information of the company responsible for labelling must be included. Label does not have to include country of production. If it applies, companies can use "made in the EU"

Label should include traceability information such as batch number and plant approval number. Best before date must be included in month and year (plus day if short shelf life)



Net weight must be reported

The pet food label must:
- Specify target species and lifestage
- Specify if the food is "complete" (provides all necessary nutrients and energy for the species and lifestage, and can be used as sole source of nutrition) or "ccomplementary" (does not provide all nutrients and mainy refers to treats)

Feeding instructions can be more or less detailed. Many labels state that these are only recommendations and might vary depending on age, breed, activity and health

Label should include storage instructions (canned food might also include storage instructions after opening)

Dry pet food must recommend that the pet must have fresh water available at all times

Analytical constituents are declared as percentages (grams per 100 g of pet food) in fresh matter. The ones that are mandatory are crude protein, crude oils and fats, crude ash, and crude fibres. Moisture is only mandatory if >14% . The energy density (kilocalories per kg, cup or can) is not mandatory and is often absent form labels.

https://wsava.org/global-guidelines/global-nutrition-guidelines/

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Thank you!

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