



Health benefits of BSF proteins & their relevance to European pet parents

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Agronutris
Raise and rise together



- I Celebrated 20 years in the pet industry last April
- I chose the insect industry because I believe we need to do more with less
- I chose Agronutris because I wanted to be part of its journey of shared governance built on freedom and trust



TABLE OF CONTENT

01

AGRONUTRIS
From an idea to a
Factory

02

The BSF industry in
pet food

03

Survey methodology
& sample profile

04

Take home points

05

Detailed analysis

01

AGRONUTRIS

From an idea to a Factory

Agronutris, scale-up ready pioneer of insect-based products

12

Years of insect farming and R&D

1st

European company granted with **Novel Food** for insect meal

100
m€

raised via public & private funding

bpifrance

French sovereign fund

mirova

Leading impact fund

2

BSF protein & oil to support the **sustainable** growth of the pet food industry

Ultra'In

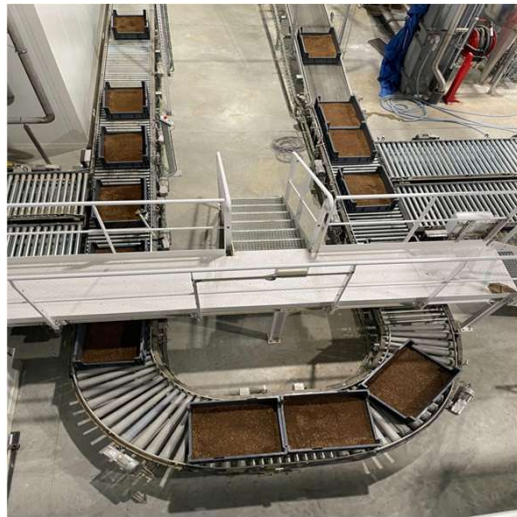


Liboost



A First Factory in the East of France

16.000m² factory



02

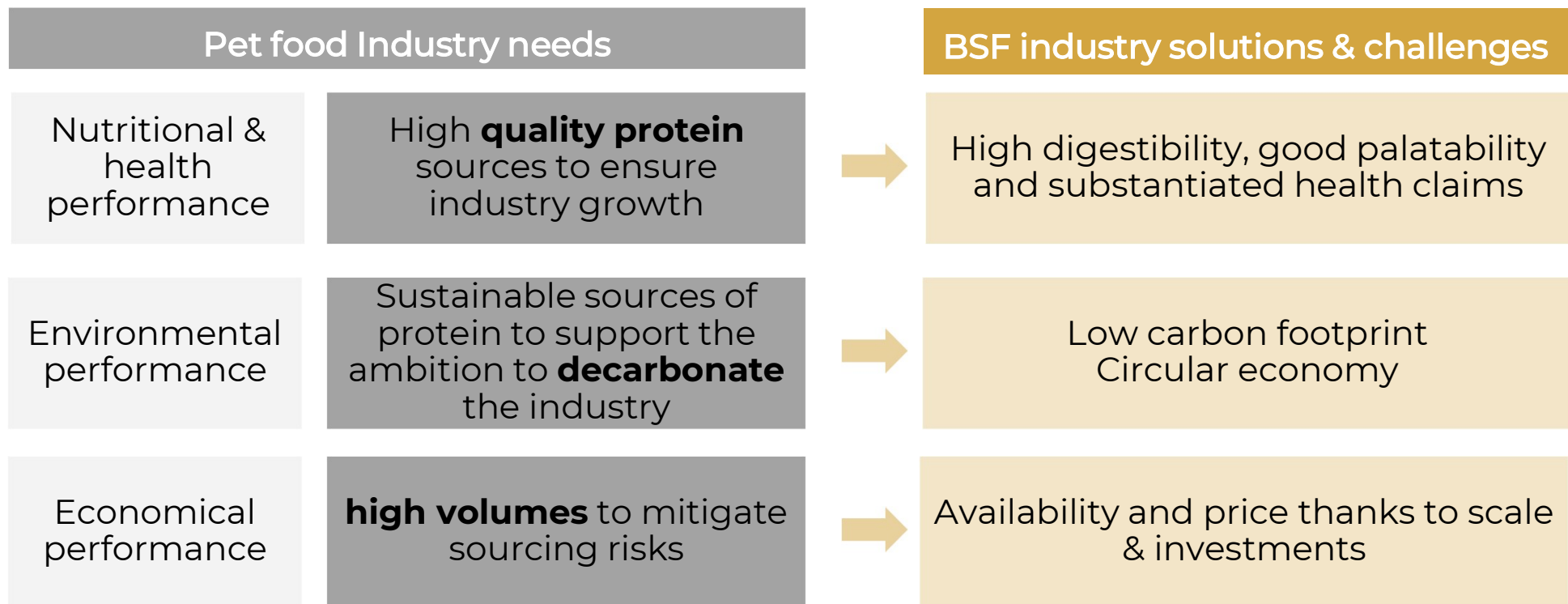
The BSF industry in pet food

Supporting the sustainable growth of pet food manufacturers

The pet food industry is facing a complex scenario

How can the BSF industry be part of the solution?

In an uncertain context of **raw material availability** and **supply chain risks**, how to face the forecasted **growth of the industry**, while ensuring ambitious objectives of **CO₂ emission reduction**?



The insect based pet food market

More and more products on shelves.

Globally, the use of insects in pet food launches is growing with **over 100 brands and more than 500 products** using insect ingredients

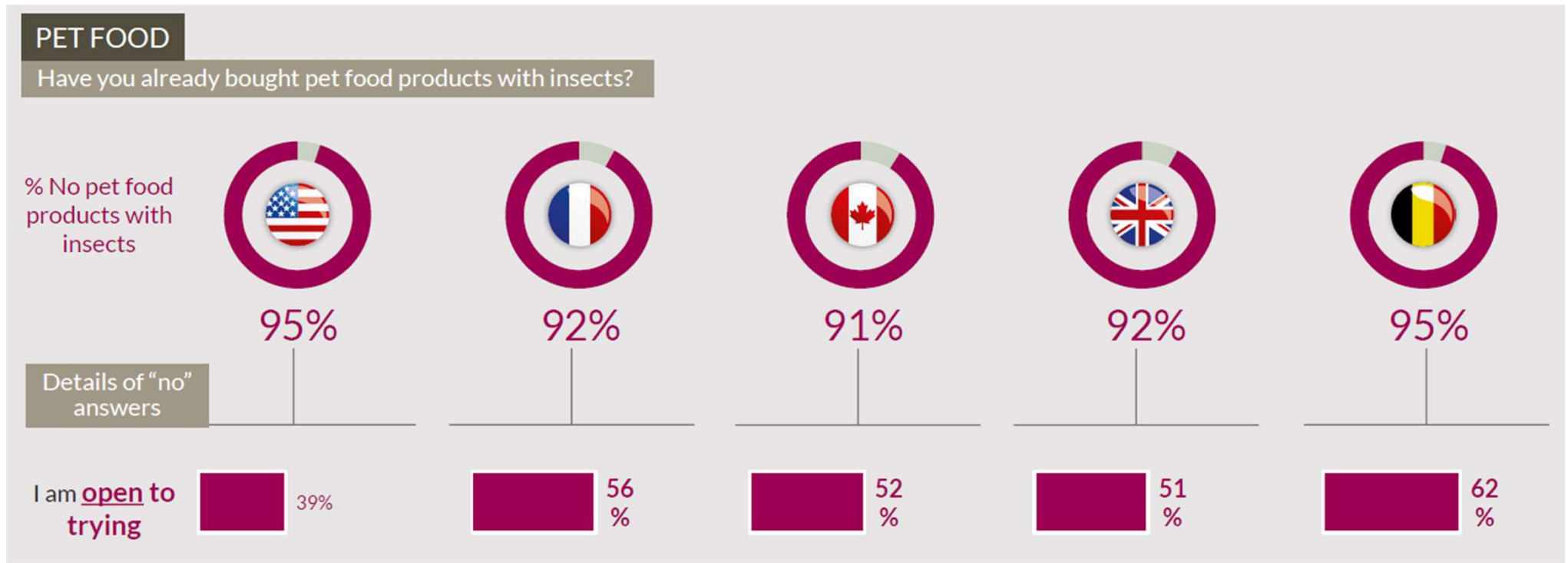
Black soldier fly, mealworm and crickets are the most frequent insects

Sustainability is the n°1 claim followed by **health claims** such as hypo allergenicity, gut health and digestibility, immune health and lastly brain health.



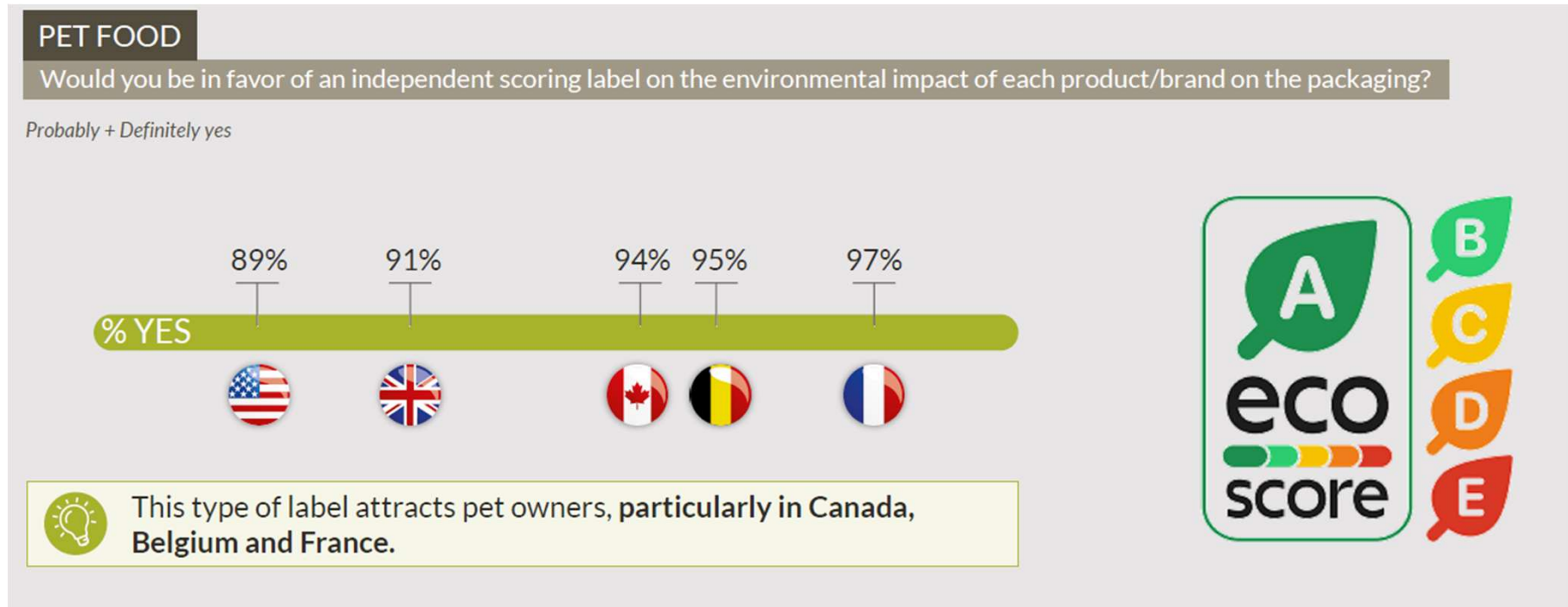
How to drive consumer acceptance of insect based pet food ?

What are the purchase drivers to trigger a 1st purchase?



The key to pet parents heart and shopping cart

The presence of a label rating the environmental impact on packaging is unanimously supported



The key to pet parents heart and shopping cart

Substantiated health benefits of insect based pet food can help drive acceptance

#1

Highly digestible

Studies indicate that BSF larvae meal can serve as a protein source in pet food while maintaining nutrient digestibility.

Bosch et al. 2016, Do et al. 2020, Penazzi et al. 2021, Bosch and Swanson 2021, Reilly, et al. 2022.

#2

Supports gut health

Recent work shows pronounced positive impact of dry food containing 37.5% BSF larvae on the gut microbiota of cats

Bosch et al. 2024.

#3

Good stool quality

Studies indicate that BSF meal can be included at levels of 30% in pet food while maintaining faecal quality.

Meyer et al. 2019; Yamka et al. 2019; Abd El-Wahab et al. 2021; Freel et al. 2021; Bosch and Swanson, 2021

The key to pet parents heart and shopping cart ... Ctd

Substantiated health benefits of insect based pet food can help drive acceptance

#4

Novel protein

Insect is a novel protein source. Insect proteins allow for exclusion diet formulations

Favrot et al., 2010; Kierończyk et al. 2022.

#5

Anti-inflammatory

Anti-inflammatory capacity improved when including 1-2% of BSF in dry food.

Lei et al. 2019

#6

Supports healthy skin & coat

Linoleic acid is an essential fatty acid for dogs and cats. Dietary supplementation of this fatty acid has been shown to improve skin and coat scores in dogs

Marsh et al. 2000; Fu et al. 2001

03

Survey methodology & sample profile

Powered by

Yummypets

THE SOCIAL PETWORK

Methodology

Survey conducted by Yummypets on their proprietary panel Explorer

 Online quantitative study conducted in August 2024
Includes questions already submitted in August 2022

 6 countries across 3 regions:

-   EUROPE (EU): France, UK
-   NORTH AMERICA (NA): USA, Canada
-   LATIN AMERICA (LATAM): Brazil, Mexico

 16 close-ended questions & demographics
N=2400 respondents, 400 per country, 800 per region

 Target:
100% cat and/or dog owners, aged 18 to 75 y.o.
50% cat owners, 50% dog owners
population nationally representative of pet parents in each country

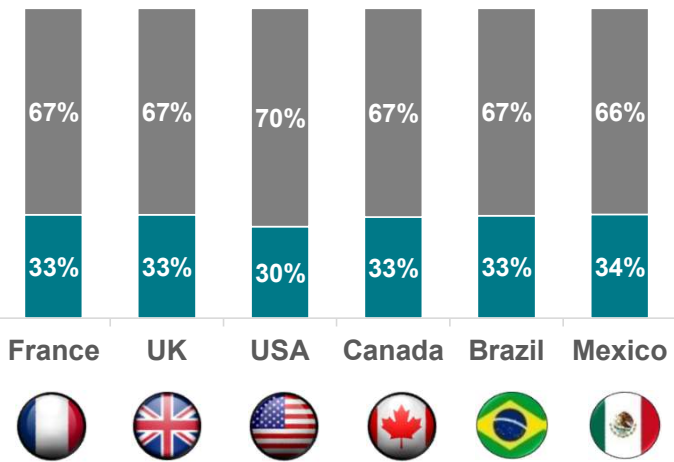
Data weighted to best represent the pet owner population of each market

Built by Yummypets, and unlike other panels, Explorer is a panel exclusively dedicated to the pet ecosystem. Explorer is a panel of pet owners committed to the improvement of the well-being of their pets.

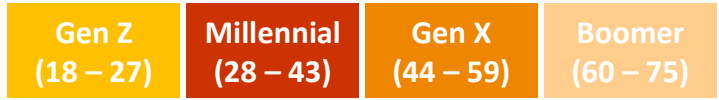
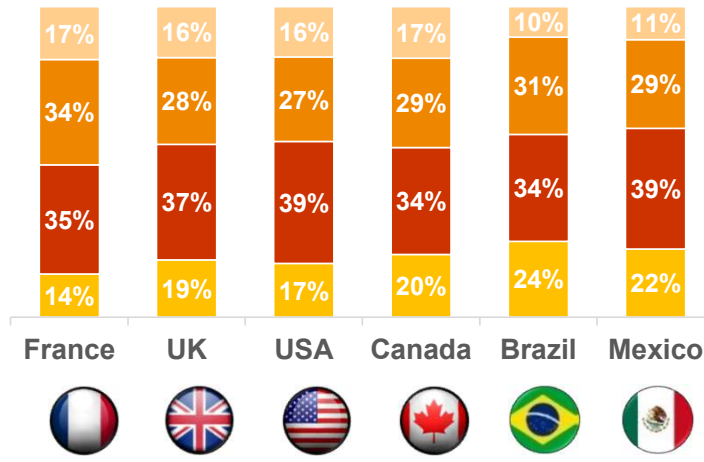
Sample profile 1/2

2400 cat or dog owners | France 407 | UK 407 | USA 377 | Canada 400 | Brazil 404 | Mexico 405

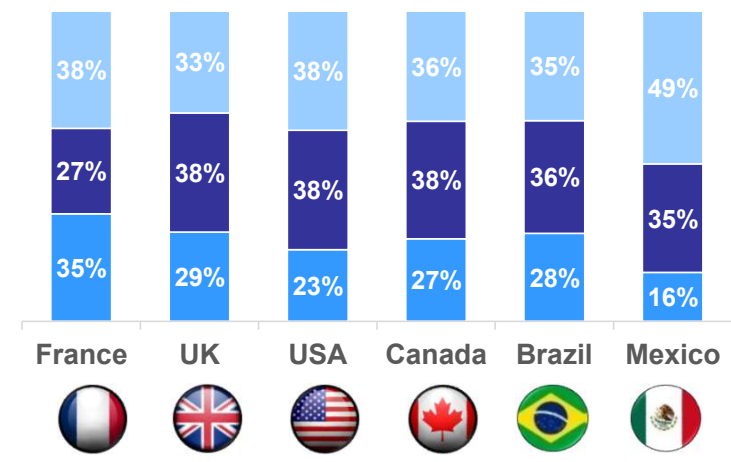
Gender



Age



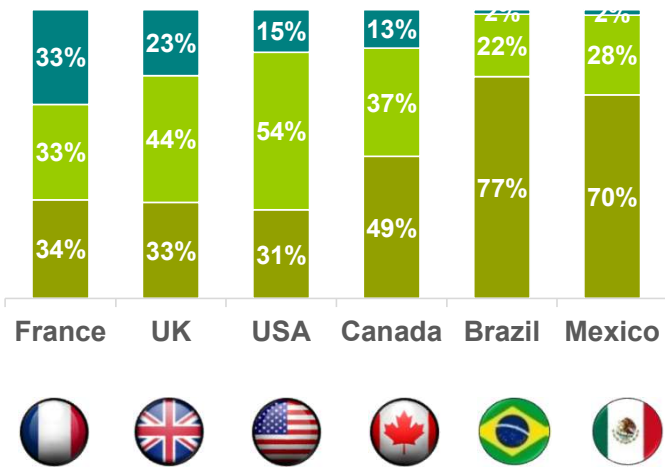
Pet ownership



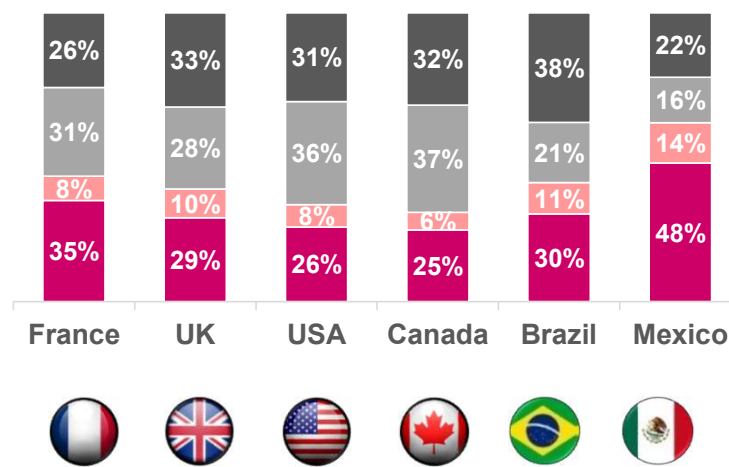
Sample profile 2/2

2400 cat or dog owners | France 407 | UK 407 | USA 377 | Canada 400 | Brazil 404 | Mexico 405

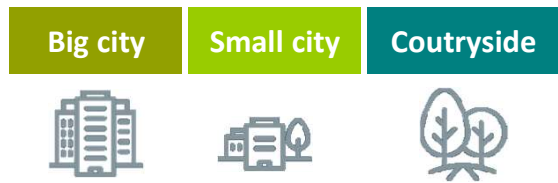
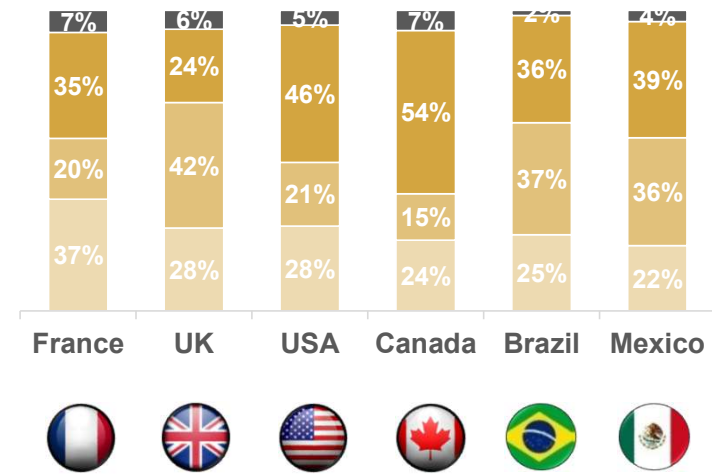
Place of residence



Household composition



Income



04

Take home points

Key findings



In 2 years the infamous “yuck factor” has (almost) disappeared



Overall **Gen Z & Millennials, families with children and high income** show a **higher acceptance** of insect based diet for pets



Sharing **facts and health benefits** of insect based ingredients **significantly increases willingness to purchase** insect based diets

05

Detailed analysis

3 main curbs to an insect-based diet for pets

In 2 years, deterrent are decreasing and the yuck factor disappeared from the top 3

What would prevent you from feeding your pet an insect-based diet?



Top 3 myth busters most likely to encourage purchase

Gen Z and millennials respond significantly better to top 3, higher incomes respond significantly better to all

Which of these information are likely to make you buy an insect based pet food?

- #1 Insects used do not transmit diseases
- #2 Insects used do not represent a health risk to humans, cats and dogs
- #3 Cats & dog naturally eat insects
- #4 Insects ingredients are produced using the same strict quality and hygiene standards as other ingredients used in pet food
- #5 Regulation authorizes the use of insects in pet food since several years
- #6 Insects cannot be seen in the pet food, manufacturers use meal and/or oil
- #7 Insects used in pet food are naturally present in our environment
- #8 Insects can be used to make pet food



Top 3 benefits most likely to encourage purchase

Higher incomes respond significantly better to top 4 benefits and Gen Z & Millennials ranked suitability to food allergies #3

Which of these benefits are likely to make you buy an insect based pet food?

- #1 Insect meal is rich in protein and its nutritional profile is suited to the needs of pets
- #2 Insect based pet food contributes to dogs' oral hygiene and reduces bad breath
- #3 Insect meal is highly digestible
- #4 Insect based pet food is particularly suited for pets with food allergies Gen Z (18 – 27) Millennial (28 – 43)
- #5 Cats & dog enjoy the taste of insect based pet food
- #6 Insect based pet food contribute to reducing your environmental footprint



How do you see the future of insect based pet food?

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Let's stay connected!



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