SIAN
Simpósio de Alimentos e Nutrição

4ª EDIÇÃO
Sustentabilidade e Inovação na Ciência dos Alimentos - Impacto na Bioeconomia

17 E 18 DE JUNHO DE 2019

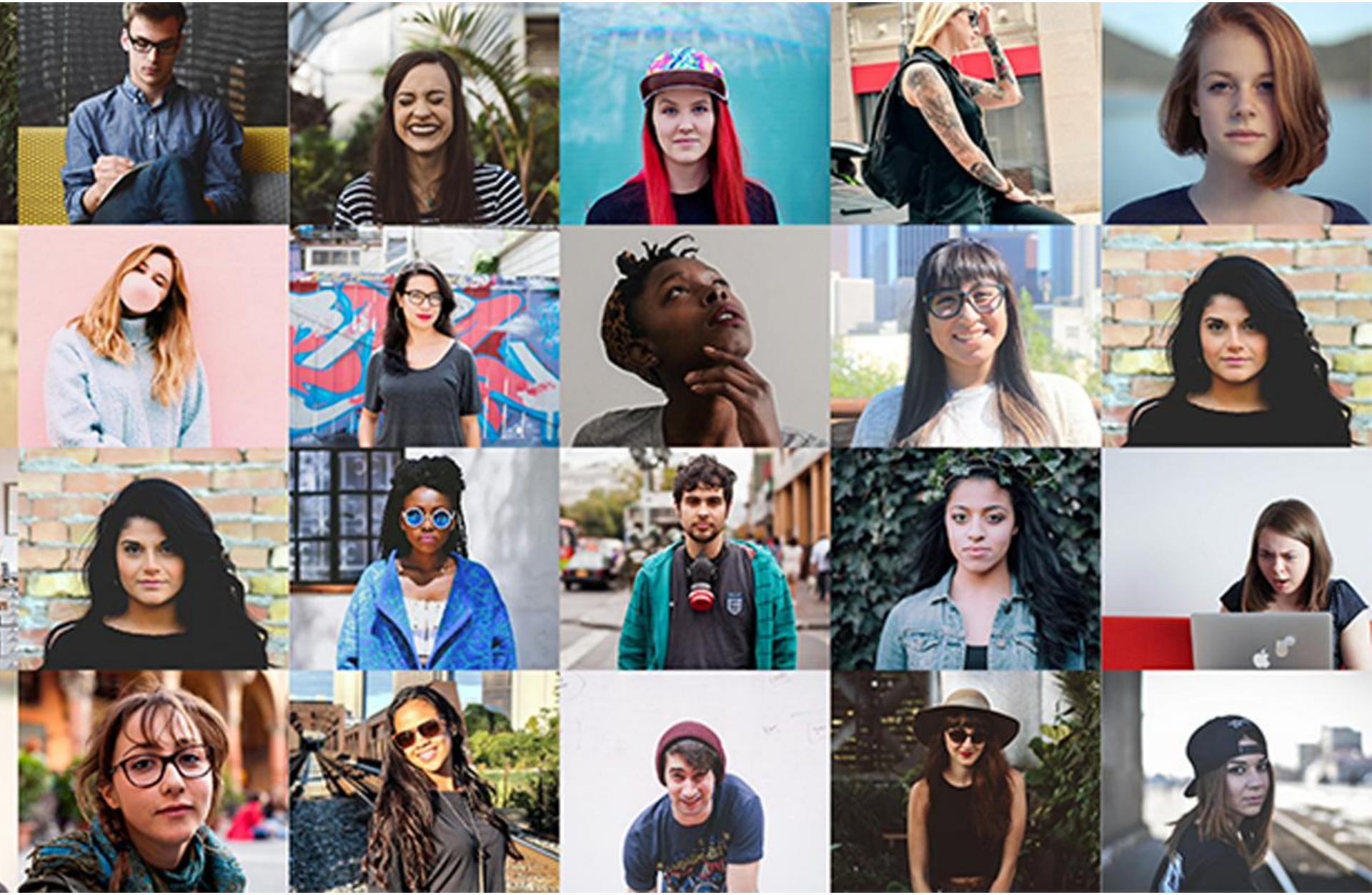
Estudos de consumidores em sustentabilidade e consumo consciente de alimentos

Profa Dra. Ellen Menezes Ayres

UNIRIO / PPGAN / PPGSAN

2019


Idea
career
information
PORT



O que é **sustentabilidade?**

O que é **sustentabilidade?**

Nosso Futuro Comum

"Encontrar as necessidades do presente sem comprometer a habilidade de gerações futuras de encontrar as suas".
(Relatório da Comissão de Brundtland, 1987)

O TRIPÉ DA SUSTENTABILIDADE

TRANSPARÊNCIA CONTÁBIL
GOVERNANÇA CORPORATIVA
PERFORMANCE ECONÔMICA
OBJETIVOS FINANCEIROS

POLÍTICAS PÚBLICAS
INVESTIMENTO COMUNITÁRIO
CONDIÇÕES DE TRABALHO
SAÚDE / NUTRIÇÃO
DIVERSIDADE
DIREITOS HUMANOS
INVESTIMENTO SOCIAL RESPONSÁVEL
ANTICORRUPÇÃO E SUBORNO
SEGURANÇA

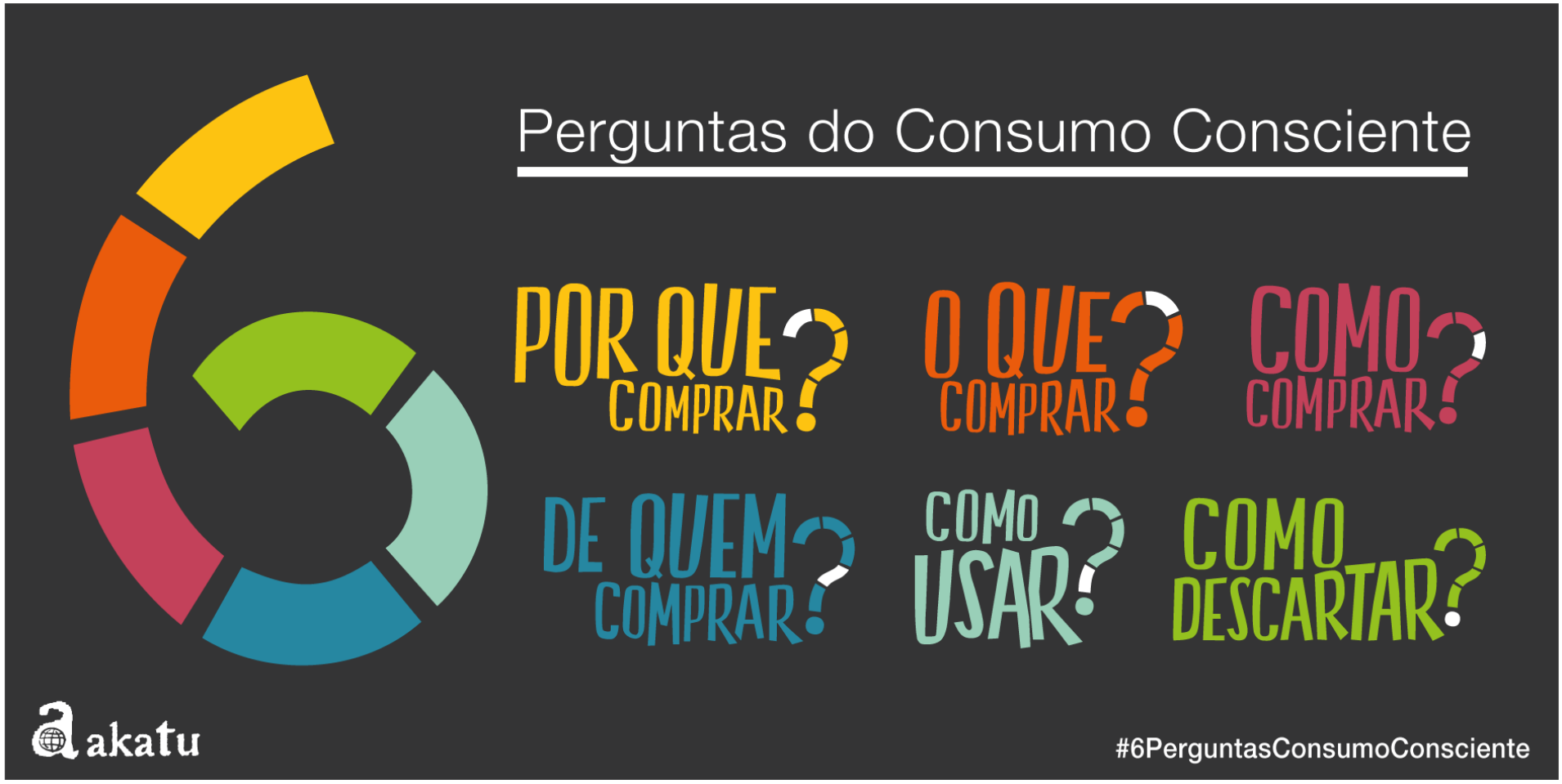
ENERGIA
ÁGUA
GASES DO EFEITO ESTUFA
EMISSÕES
REDUÇÃO DE DESPERDÍCIO / LIXO
RECICLAGEM
REPREOCESSAMENTO / REUSO
LIMPEZA VERDE
AGRICULTURA / ALIMENTOS ORGÂNICOS
BIODIVERSIDADE

SUSTENTABILIDADE

O que é **consumo sustentável**?

É o consumo do produto ou serviço que tem o menor impacto no ambiente para preservar as fontes naturais do planeta para gerações futuras

O que é **consumo consciente**?



O que é **o consumidor consciente?**

Consumidor

PESQUISA AKATU 2018

Panorama do consumo consciente no Brasil: desafios, barreiras e motivações

OBJETIVOS DA PESQUISA

- Analisar a **evolução e aprofundar a compreensão** em relação à:
  - **consciência e comportamento** do consumidor brasileiro rumo ao consumo consciente;
  - **percepção e expectativa** do consumidor brasileiro quanto às **práticas de sustentabilidade e responsabilidade social** das empresas.

METODOLOGIA

COMO

ABORDAGEM
QUANTITATIVA

ENTREVISTAS
DOMICILIARES

QUEM

POPULAÇÃO

- 16 ANOS OU MAIS
- HOMENS E MULHERES
- TODAS AS CLASSES SOCIAIS

QUANTOS

1.090
ENTREVISTAS

(MARGEM DE ERRO MÁXIMA, COM 95% DE CONFIANÇA = 3 PONTOS PERCENTUAIS)

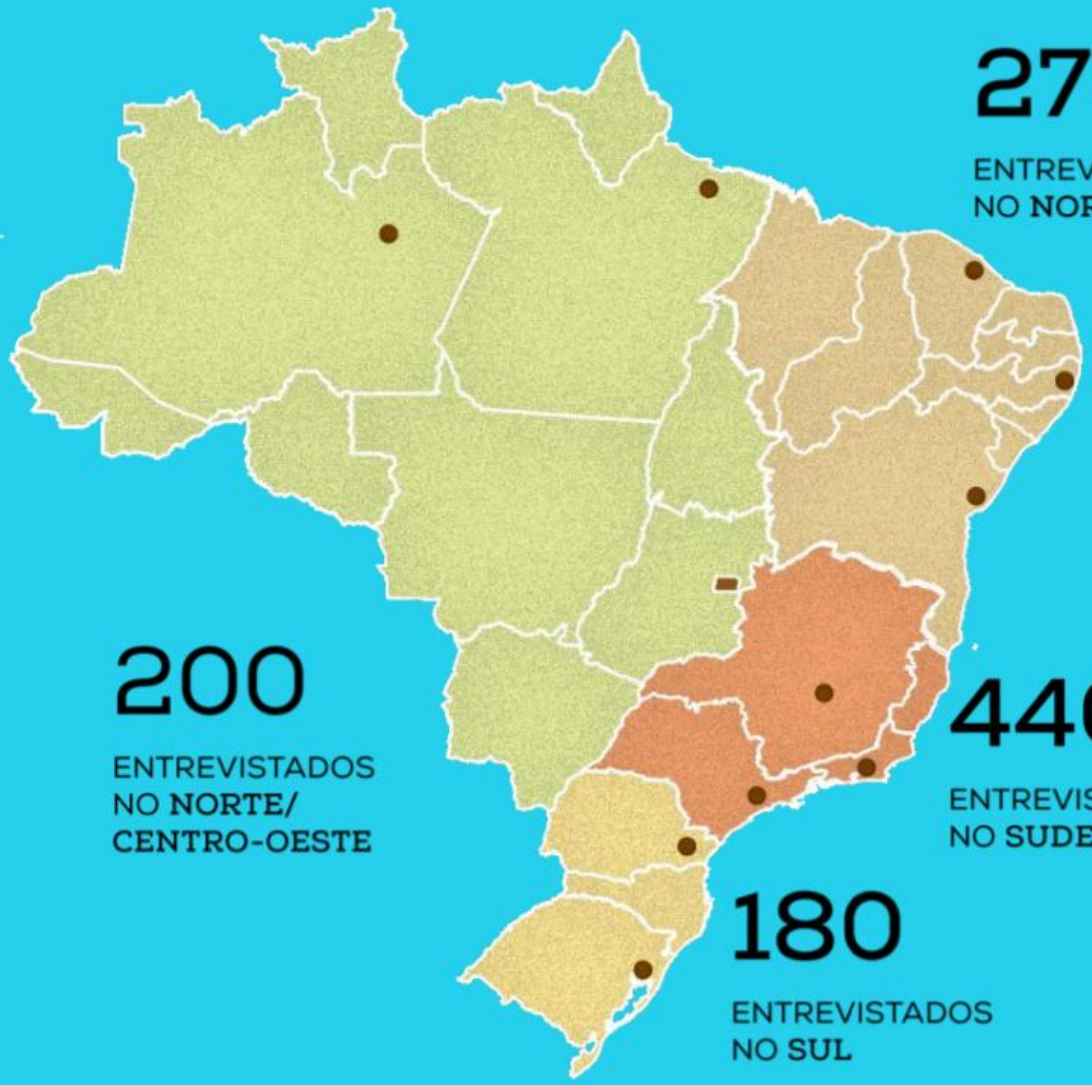
METODOLOGIA

ENTREVISTAS

EM 12 REGIÕES METROPOLITANAS BRASILEIRAS

(MESMA ABRANGÊNCIA DO ESTUDO ANTERIOR)

COM COTAS
QUANTIFICADAS POR:
SEXO
IDADE
CLASSE SOCIAL



270
ENTREVISTADOS
NO **NORDESTE**

200
ENTREVISTADOS
NO **NORTE/**
CENTRO-OESTE

440
ENTREVISTADOS
NO **SUDESTE**

180
ENTREVISTADOS
NO **SUL**

O TESTE DO CONSUMO CONSCIENTE (TCC)

Ferramenta criada em 2003 que avalia o **grau de consciência** de pessoas ou comunidades **no consumo** e oferece **caminhos** para que todos possam se tornar consumidores mais conscientes.

Table 1
Overview of the main concepts, constructs and scales found in the literature on consumer or business social, environmental and economical perspectives.

Constructs	Description	Statistical method	Author (year)
Social perspective			
Socially Conscious Consumer Scale	Social Responsibility Scale with 8 items	Linear Discriminant Analysis	Anderson (1972)
Corporate Social Responsibility (CSR)	Perceptions of the firm's involvement in corporate giving, including its support of non-profit organizations	Confirmatory Factor Analysis	Lacey and Kennett-Hensel (2010)
Lifestyle Scale	Identify what values and lifestyles best explain environmentally friendly behaviours.	Structural Equation Modelling	Fraj and Martinez (2006)
Environmental perspective			
Ecological Attitudes and Knowledge	Ecology scale	A two-factor (Groups X Subscales) analysis of variance	Maloney and Ward (1973)
Environmental Consciousness (EC)	Multi-dimensional construct, consisting of cognitive, attitudinal and behavioural components	Regression analysis	Schlegelmilch et al. (1996)
Green Costumer Purchase Intention	Consumer involvement with green purchase intention	Descriptive Measures and Correlation Analysis	D'Souza et al. (2006)
Ecological behaviour (EB)	Dimension of the individuals' real ecological commitment with the environment	Structural Equation Modelling	Fraj and Martinez (2006)
Natural Environmental Orientation (NEO)	Embraces various perspectives towards nature, such as the love of nature and seems to be suited for explaining nature-protective behaviour.	Structural Equation Modelling	Mostafa (2007)
Green Purchasing Behaviour	Purchasing behaviours for general green products	Hierarchical Multiple Regression Analysis	Lee (2008)
Economic perspective			
Creating Shared Value	Creating economic value in a way that also creates value for society by addressing its needs and challenges.	Conceptual	Porter and Kramer (2011)

Carvalho, Salgueiro & Rita, 2015.
Ecological Indicators, 58, 402-410.

13 COMPORTAMENTOS AVALIADOS

FAZ ISSO EM SUA ROTINA?

1. Lê atentamente os rótulos antes de comprar um produto.

2. Pede nota fiscal (cupom fiscal) quando vai às compras, mesmo que o fornecedor não a ofereça espontaneamente.

3. Separa o lixo de casa para reciclagem, mesmo não havendo coleta seletiva.

4. Quando possível, usa também o verso das folhas de papel.

5. Fecha a torneira enquanto escova os dentes.

NÍVEL DE CONSCIËNCIA DO CONSUMIDOR

4 níveis de consciência no consumo com base nos 13 comportamentos avaliados, segmentando pela quantidade de comportamentos que o consumidor declara "adotar sempre" ou "ter realizado" nos últimos 6 meses.

INDIFERENTES

0 a 4
comportamentos

INICIANTES

5 a 7
comportamentos

ENGAJADOS

8 a 10
comportamentos

CONSCIENTES

11 a 13
comportamentos

NÍVEL DE CONSCIËNCIA DO CONSUMIDOR

Crescimento significativo do segmento de **consumidores** INICIANTES – momento para recrutar INDIFERENTES e apoiar INICIANTES.

(em %)

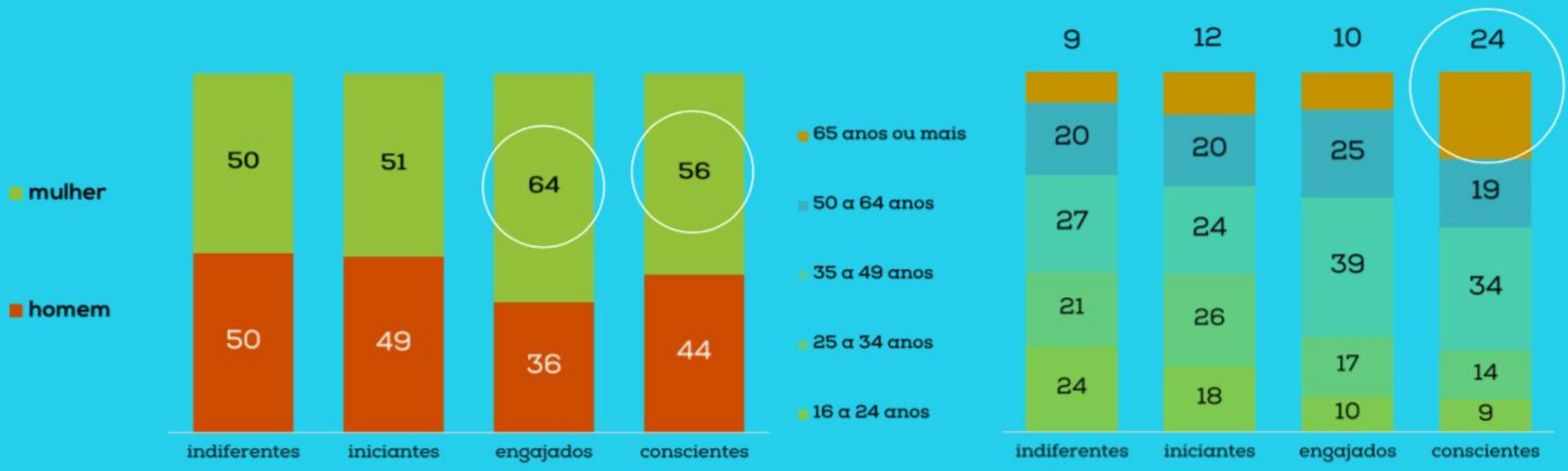
SEGMENTOS AKATU APENAS OS COMPORTAMENTOS AVALIADOS ATÉ 2012

COMPORTAMENTOS: 2006/2010/2012 = SEMPRE; 2018 =SEMPRE + 0,5*QUASE SEMPRE

ATITUDES: 2006/2010/2012 = SIM/COMPROU; 2018 = SIM/COMPROU MUITAS + ALGUMAS + POUCAS VEZES)

NÍVEL DE CONSCIÊNCIA DO CONSUMIDOR

O segmento de consumidores mais CONSCIENTES (conscientes + engajados) é majoritariamente **feminino** e **mais velho**.

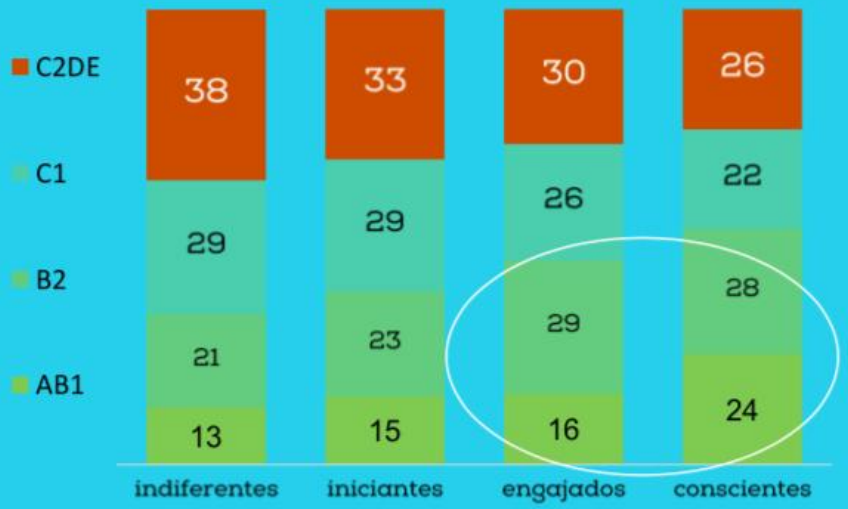


(em %)

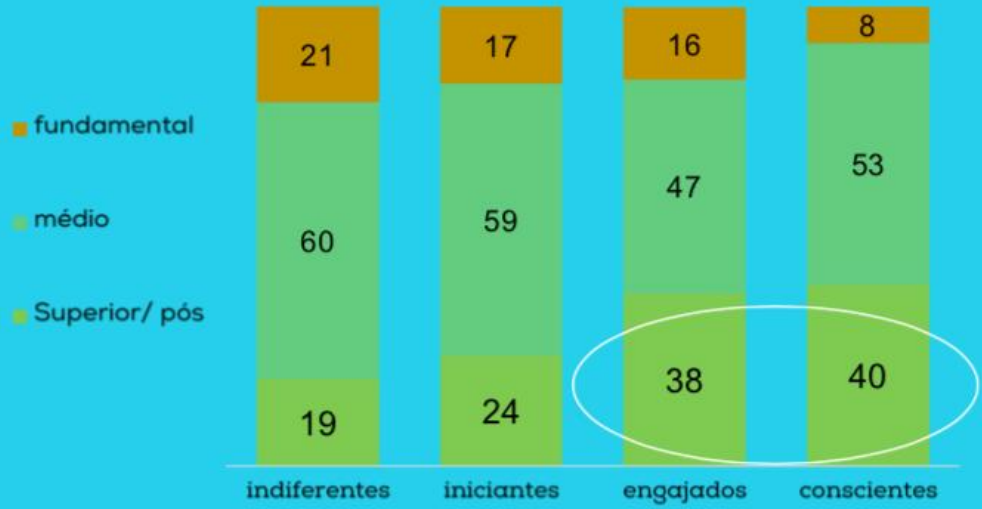
NÍVEL DE CONSCIËNCIA DO CONSUMIDOR

O segmento de consumidores **mais CONSCIENTES** (CONSCIENTES + ENGAJADOS) está concentrado nas classes sociais mais altas e no grupo de maior escolaridade.

CLASSE SOCIAL



ESCOLARIDADE



(em %)

NÍVEL DE CONSCIËNCIA DO CONSUMIDOR

O **Sul** tem a maior proporção de consumidores CONSCIENTES.

Sudeste, ao contrário, tem a maior proporção de consumidores INDIFERENTES .

O **Norte/Centro-Oeste e Nordeste** têm maior proporção de INICIANTES e ENGAJADOS.

NORTE/CENTRO-OESTE

INDIFERENTES : 18%

INICIANTES: 44%

ENGAJADOS: 33%

CONSCIENTES: 5%

NORDESTE

INDIFERENTES : 30%

INICIANTES: 43%

ENGAJADOS: 26%

CONSCIENTES: 2%

SUL

INDIFERENTES : 31%

INICIANTES: 39%

ENGAJADOS: 23%

CONSCIENTES: 7%

SUDESTE

INDIFERENTES : 49%

INICIANTES: 35%

ENGAJADOS: 12%

CONSCIENTES: 4%

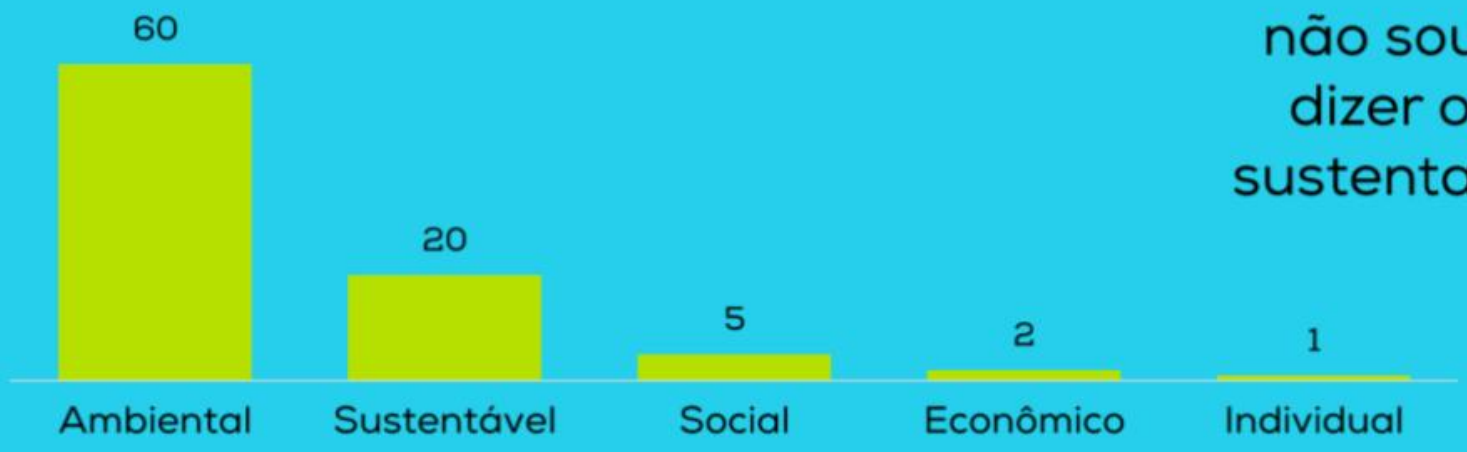
CONHECIMENTO SOBRE SUSTENTABILIDADE

68% DIZEM JÁ TER **ouvido falar em sustentabilidade.**

61% NÃO SABEM DIZER O QUE É UM **produto sustentável.**

O QUE É SUSTENTABILIDADE?

Apesar da valorização dos aspectos sociais da sustentabilidade, o repertório associado ao conceito ainda é **voltado para o meio ambiente**.



11%
não souberam dizer o que é sustentabilidade

* RESPOSTA ESPONTÂNEA E MÚLTIPLA, EM %
BASE: JÁ OUVIU FALAR EM SUSTENTABILIDADE 2018 - 719 ENTREVISTAS

BARREIRAS PARA ADOÇÃO DE PRÁTICAS SUSTENTÁVEIS

Entre os 39% **QUE TEM ALGUM REPERTÓRIO SOBRE PRODUTO SUSTENTÁVEL**, a barreira principal é **o preço dos produtos***.

Em situações em que você teria comprado um produto ou adotado uma prática mais sustentável MAS NÃO O FEZ, qual foi a razão?

TOP 5 BARREIRAS

1. **Era mais caro**	**25**
2. Dúvidas sobre a qualidade	3
3. Falta de disponibilidade	3
4. Não encontrou o produto sustentável equivalente	2
5. Visual pior/ menos bonito	2

* RESPOSTAS ESPONTÂNEAS

Estudos de consumidor

Food Research International xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

Food Research International

journal homepage: www.elsevier.com/locate/foodres

1

Sustainable diet from the urban Brazilian consumer perspective

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ARTICLE INFO

Keywords:
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Consumer
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Free listing
Sentence completion task

ABSTRACT

This study aimed to investigate the relationship between sustainability and food, and other possible associations with the socio-demographic characteristics and consumer segmentation, as well as to identify the characteristics of sustainable and unsustainable foods and the sustainable diet concept from a consumer perspective. One hundred and fifty consumers responded a questionnaire with word association, free listing, and sentence completion tasks. A thematic analysis was used to analyze the terms. Sustainability and food were associated with the categories *health*, *food of plant origin*, and *organic food*. *Healthy* was considered the main characteristic of a sustainable food and *degradation to the environment* was the characteristic of unsustainable food. Regarding the sustainable diet concept, the terms *healthy diet* and *sustainable production* stood out. Individuals of higher educational level associated food and sustainability with natural resource preservation and reuse, while individuals with lower educational levels reported the association with healthy food, nutrition, and food of plant origin. The present findings can help designing strategies to integrate food and nutrition education and formulation of public policies, as well as identifying the target market and understanding how the product or service can meet the consumer's needs.

Objetivo

- Conhecer a relação entre sustentabilidade e consumo de alimentos
- Identificar as características de alimentos sustentáveis e não-sustentáveis
- Explorar o conceito das dietas sustentáveis

Table 1
Demographic characteristics of the participants (n = 150).

Characteristics	Participants (%)
Gender	
Female	62.0
Male	38.0
Age (years)	
18–33	46.0
34–59	44.0
> 60	10.0
Education level	
Primary school	4.7
Secondary school	39.3
Higher education	56.0
Food information source	
Internet	23.6
Television	17.9
Food labels	16.3
Health professionals	14.0
Magazines and newspapers	13.6
Friends	11.0
Others (training, lectures and conferences)	3.7

Table 2
Questionnaire to explore participants' perception of food in the sustainability context.

Word association task
Q1 – "When you think of food and sustainability, what comes to your mind?"
Free listing task
Q2 - List all the characteristics of a sustainable food Q3 - List all the characteristics of an unsustainable food
Sentence completion task
Q4 - Complete the sentence: Sustainable diets…

Resultados

- 623 palavras/termos
- 61 categoriais
- 15 categorias

Table 3
Frequency of mentions of categories and examples of terms constituting each category - relationship between food and sustainability - word association.

Category	Examples of most relevant words in the categories	Frequency (n)
Health	Health; healthy; well-being; longevity; quality of life, good for health; healthy life	54
Food of plant origin	Fruits; beans; rice; vegetables	50
Organic production	Organic; organic food; without pesticides; food without any poison	47
Preservation of the environment	Nature preservation; non-interference with the environment; rational use of natural resources	31
Nutrition	Protein; vitamins; nutritious; set of nutrients; food reorganization	24
Agriculture	Agriculture; planting; land use; natural irrigation; farmer	22
Food safety	Clean; within validity period; food preservation; fresh; absence of contamination; innocuity	20
Healthy eating	Healthy eating; healthy foods; proper food	18
Natural	Natural food; natural products; no preservative; natural; no genetic changes; natural growth	17
Production	Production; food product; production control; industrialization	16
Reuse	Reuse	16
Waste	Waste; not waste; do not waste food	16
Foods	Foods	15
Family farming	Family farming; own vegetable garden; family production; local products	15
Sustainable production	Sustainable production; adequate production, sustainable food production; biodynamics; no-tillage	15

Resultados

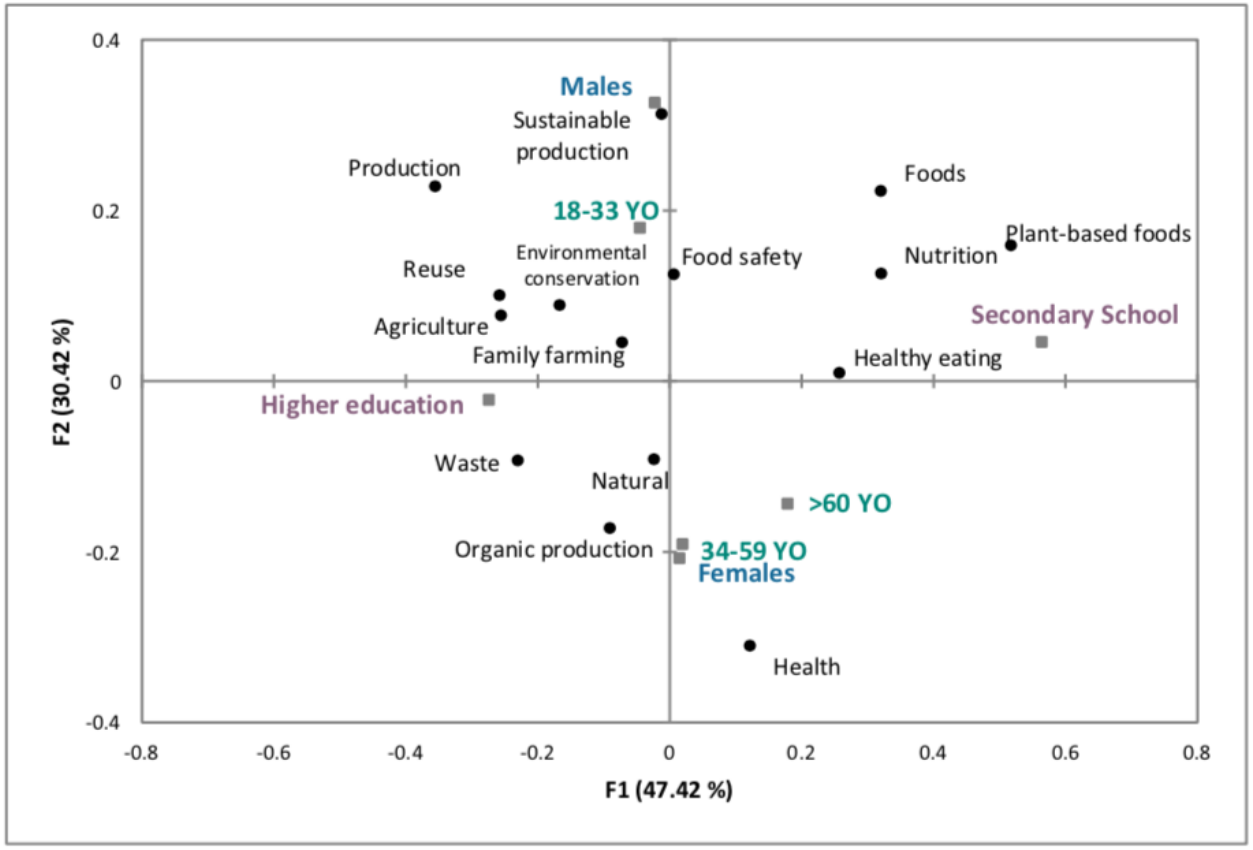
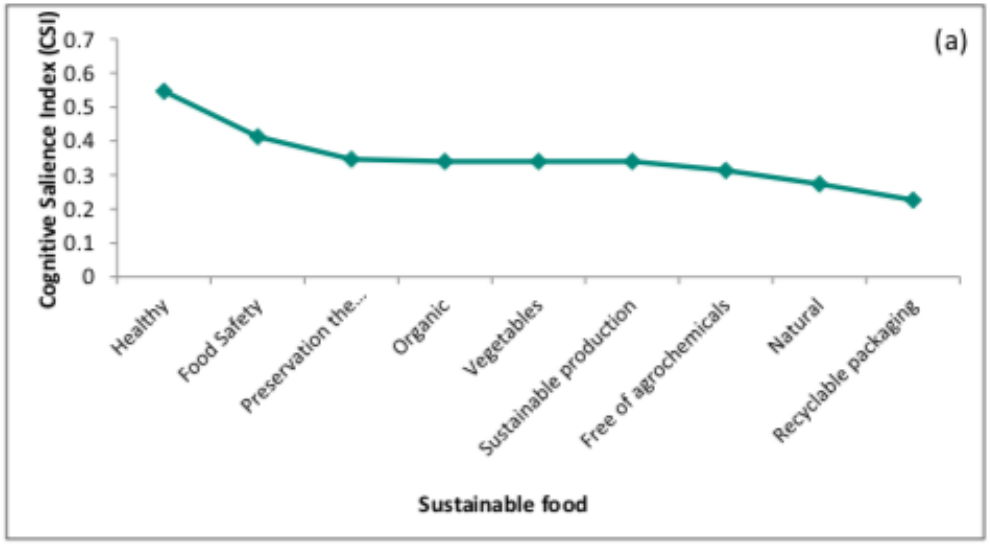


Fig. 1. Representation of the categories and demographic characteristics of participants on the first and second dimensions of the correspondence analysis (CA) on the frequency table of the categories mentioned by > 10% of the participants when they were asked to write down the first words that came to their mind when thinking of food and sustainability.

Resultados



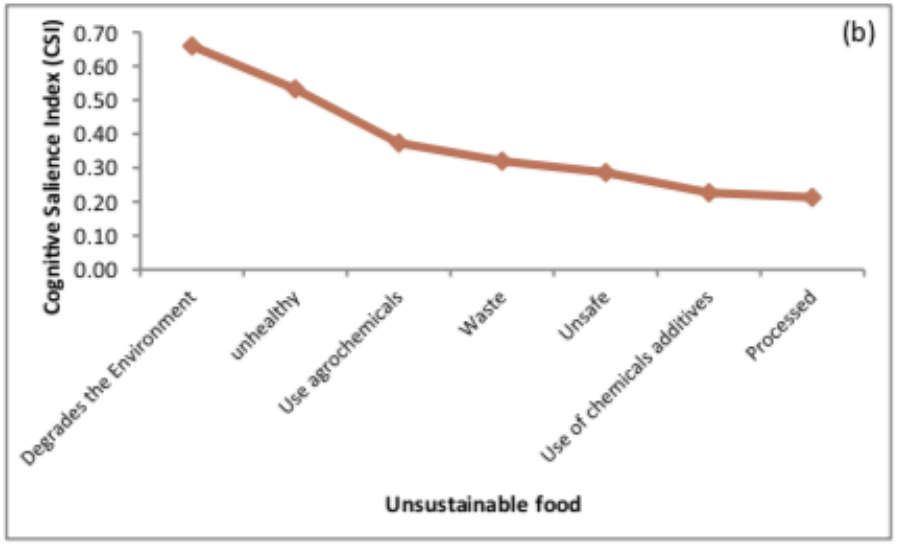


Fig. 2. Characteristics of sustainable (a) and unsustainable foods (b).

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Healthy and environmentally sustainable food choices: Consumer responses to point-of-purchase actions

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2

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Environment
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Price
Consumer

ABSTRACT

There are numerous government and industry actions that could advance consumer choices for healthier and environmentally sustainable food products. This study investigates the effect of point-of-purchase actions; price changes, health and/or environment logos, health and/or environment product information labels. Three hypothetical choice experiments investigated choices between specific products and their healthy and sustainable alternatives: rice (white versus brown rice, n = 280), meat (beef versus kangaroo steak, n = 344) and tomatoes (tinned versus fresh tomatoes for a tomato sauce, n = 320). Data was collected via an online survey from a representative nationwide sample of Australian household grocery buyers (N = 944).

Results show that the effects of the investigated actions are very product and consumer segment dependent. In general, price changes, particularly a decreased price (subsidy) for the healthy and sustainable alternatives, had a bigger effect on shifting choices than did a logo and/or label. Product similarity seems to play an important role as we observed the greatest shift in choices in the rice experiment with more respondents opting for brown rice instead of white rice. The responsiveness of consumers to the investigated measures was largely influenced by whether they were familiar with, and liked, the healthy and sustainable product alternative.

In conclusion this study indicates that point-of-purchase actions may partially contribute to advance uptake of healthy and sustainable food alternatives. The effects of such measures are expected to be greater when these alternatives are more similar to the standard products for their sensory properties, convenience, product liking and familiarity.

Objetivo

- Explorar o impacto das ações no momento da compra para aumentar a escolha do consumidor por produtos alimentícios mais saudáveis e sustentáveis.

You are shopping for rice for an ordinary weekday evening meal. Which option do you prefer?

Brown Rice – 1 Kg	White Rice – 1 Kg
	
This product is a good source of dietary fibre and B-group vitamins This product is environmentally friendly produced: less processing and a lower carbon footprint	This product is a good source of dietary fibre and B-group vitamins
$2.40	$2.53

- Brown Rice
- White Rice

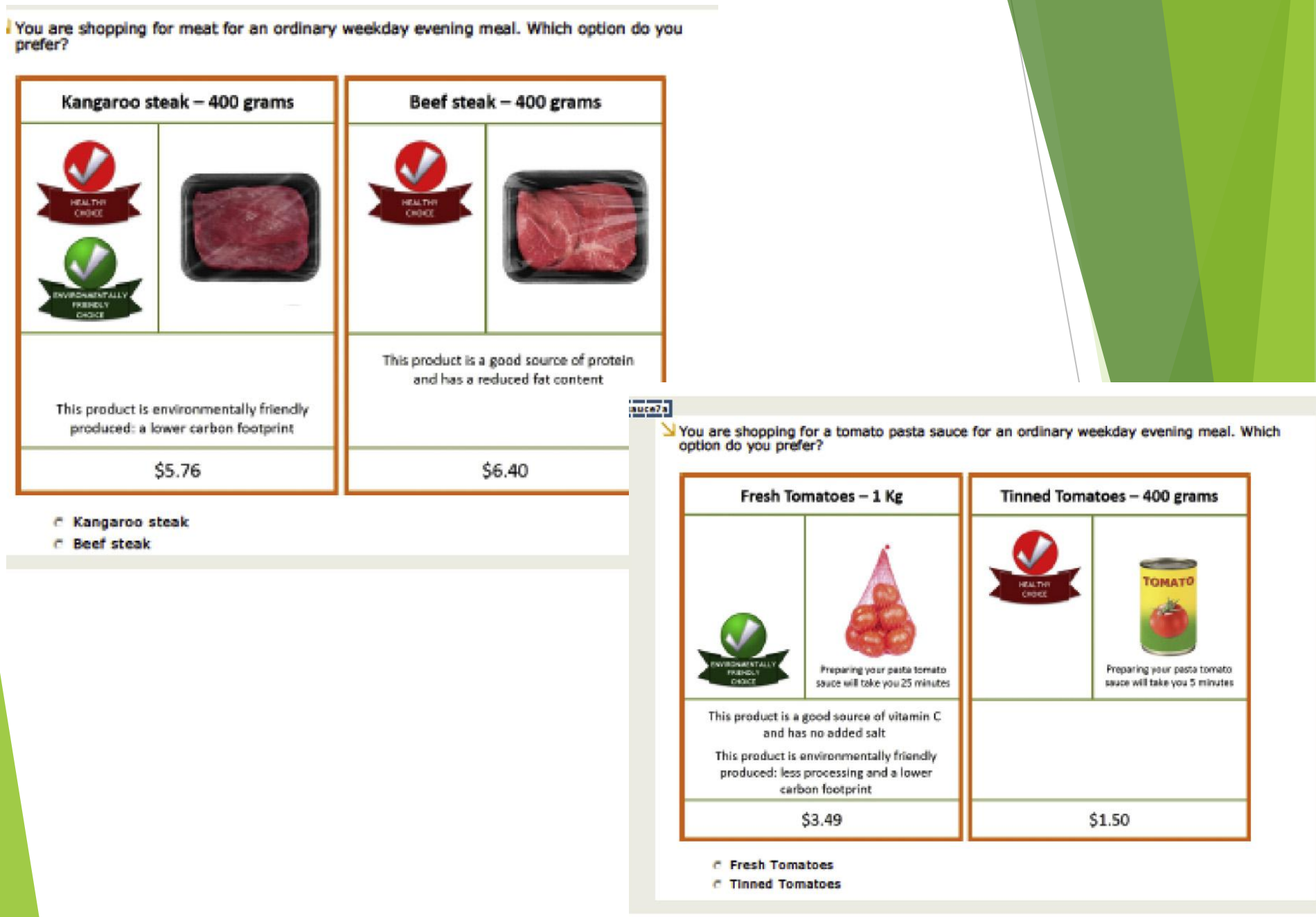

Figure 2c: Tomato experiment

Resultados

- Os resultados dependem da categoria do produto e do segmento do consumidor e;
- A redução do preço (subsídio) para os alimentos saudáveis e sustentáveis tiveram o maior efeito na transição das escolhas dos consumidores
- ...mais que o uso de logos e alegações de rótulos

Resultados

- A prontidão na resposta do consumidor diante das medidas avaliadas foi bastante influenciada pela familiaridade do produto e aceitação da opção saudável e sustentável.

Conclusões

- Indicam que as ações do governo e/ou indústria para o avanço do consumo de alimentos saudáveis e sustentáveis devem considerar:
- transições entre alternativas próximas ao do produto;
- os efeitos das ações no momento da compra, como medidas de preço, uso de logos e rótulos de saúde e meio ambiente dependem da interação das características do consumidor e a categoria do produto;
- A familiaridade do produto e a aceitação determinam se o consumidor responderá positivamente as suas ações;
- Os aspectos sensoriais dos alimentos também são importantes >> bem aceitos!

Conclusões

- Sugere-se que continuem o desenvolvimento de ações para promover esta transição dado que os efeitos do uso de logos/rótulos foram limitados e os níveis da alteração de preços muito altos;
- Reformulação e otimização de produtos e processos;
- Exposição aumentada a alimentos saudáveis e sustentáveis juntamente com a educação e informação de campanhas (escolas).

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3

How to improve consumers' environmental sustainability judgements of foods

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environmentally friendly food
guidelines
consumers' environmental evaluation

ABSTRACT

Food production and consumption account for approximately one-third of households' environmental impact. Consumers thus play a major role in the shift towards more sustainable foods and diets. An overall sustainability label or simple guidelines may enable consumers to make more environmentally friendly food choices, but whether such information-based tools improve consumers' ability to choose environmentally sustainable foods has not been empirically investigated. This study's online choice task experiment shows that eco-labels and guidelines marginally increased consumers' accuracy in selecting environmentally friendly foods. Respondents adhered, however, more to guidelines than to eco-labels and led to choices with lower environmental impact. In addition, respondents showed several misconceptions related to the environmental performance of protein products, which were resistant to both eco-labels and guidelines. These findings suggest that new, costly labels may not improve consumers' environmental judgements. Instead, addressing consumers' misconceptions and finding ways to promote environmentally sustainable food purchases is essential.

Objetivo

- Avaliar se o rótulo ambiental ou guias influenciam a acurácia do consumidor em escolher alimentos mais ambientalmente amigáveis.

- Foco na habilidade da pessoa em escolher alimentos sustentáveis mais do que a sua motivação

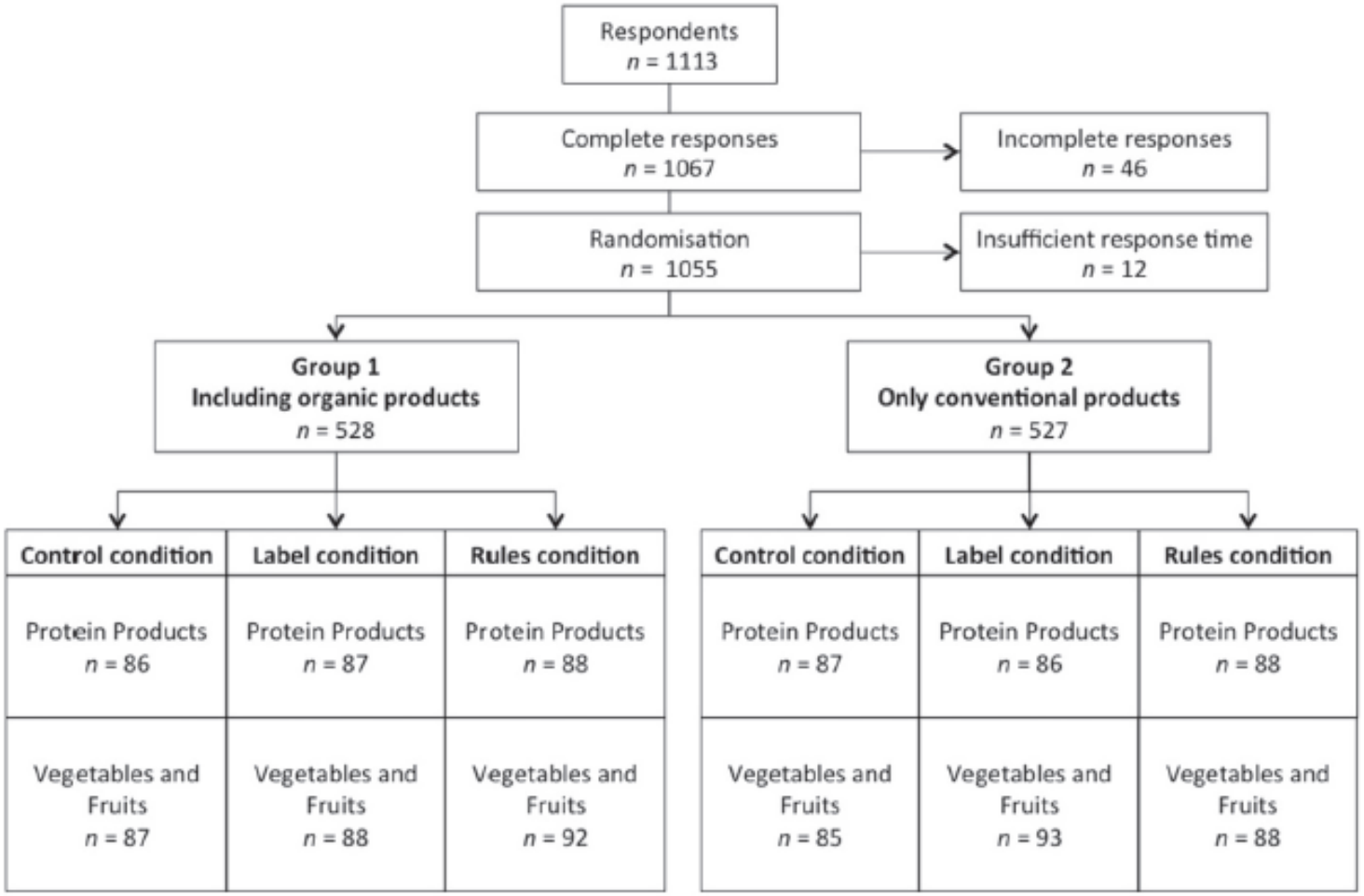


Fig. 2. Flow of participants.

Table 1
Food products presented in the different categories, including country of origin and labelling.

Food category	Product	Origin	Air transport icon present	Organic label present in the organic condition	Environmentally friendly label present in the label condition
Protein products	Minced beef	Switzerland	No	Yes	No
	Beef entrecôte	Uruguay	Yes	No	No
	Iberian ham	Spain	No	No	No
	Pork strips	Switzerland	No	Yes	No
	Chicken breast	Switzerland	No	Yes	No
	Parmesan cheese	Italy	No	No	No
	Gruyère cheese	Switzerland	No	Yes	No
	Tofu	USA[a]	No	Yes	Yes
	Falafel	Switzerland[a]	No	No	Yes
	Meat substitute	Switzerland[a]	No	No	Yes
Vegetables	Asparagus	Peru	Yes	No	No
	Bell pepper	The Netherlands	No	No	No
	Green beans	Egypt	Yes	No	No
	Leek	Switzerland	No	Yes	Yes[b]
	Tomatoes	Spain	No	Yes	Yes
	Chicory	Switzerland	No	Yes	Yes[c]
	Corn salad	Switzerland	No	Yes	Yes
	Carrots	Switzerland	No	No	Yes
Fruits	Papaya	Brazil	Yes	No	No
	Grapes	South Africa	No	No	No
	Strawberries	Egypt	Yes	No	No
	Bananas	Colombia	No	Yes	No
	Oranges	Italy	No	Yes	No
	Kiwi	New Zealand	No	No	No
	Apples	Switzerland	No	Yes	Yes
	Kiwi	Switzerland	No	Yes	Yes

[a] Only country of processing is known

Please choose the **more environmentally friendly** product in February.

Apples
Origin: Switzerland
Amount: 100g

Kiwi
Origin: New Zealand
Amount: 100g

Fig. 1. Example of a comparison pair from the choice task.

Based on these findings, we formulated a set of guidelines that a) can substantially support sustainable food choices and b) currently are not properly applied by consumers. Respondents who conducted the task with protein products were given the following guidelines:

- Avoid air-transported products.
- Reduce or renounce meat consumption.
- If meat is chosen, prefer poultry or pork.

Participants in the vegetable and fruits group were given these guidelines:

- Avoid air-transported products.
- Choose in-season vegetables and fruits.

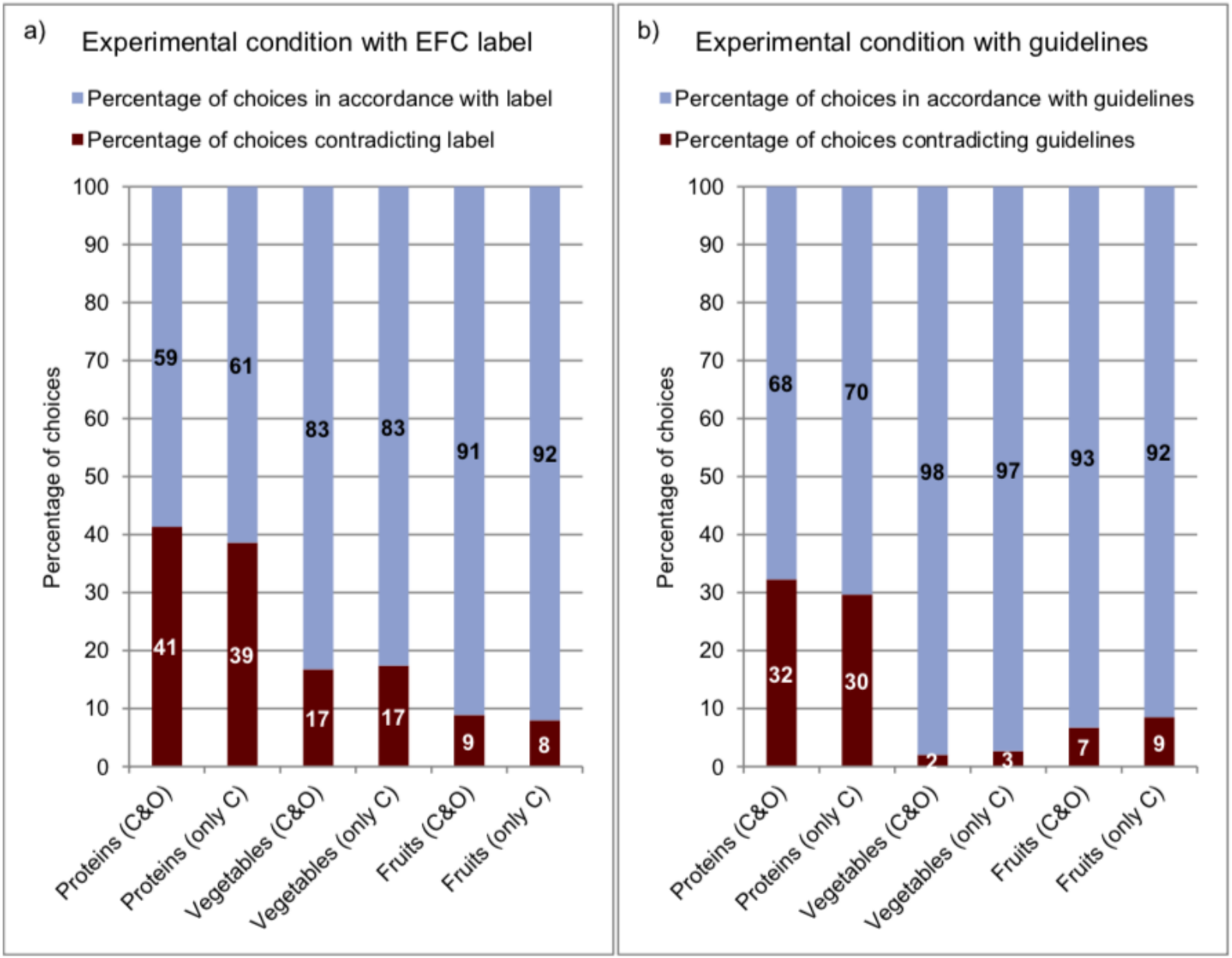


Fig. 5. Percentage of choices in accordance with and in contradiction to different communication strategies. a) Environmentally friendly choice label for conventional and organic products (C&O) and for groups with only conventional products (only C). b) Guidelines for conventional and organic products (C&O) and for groups with only conventional products (only C).

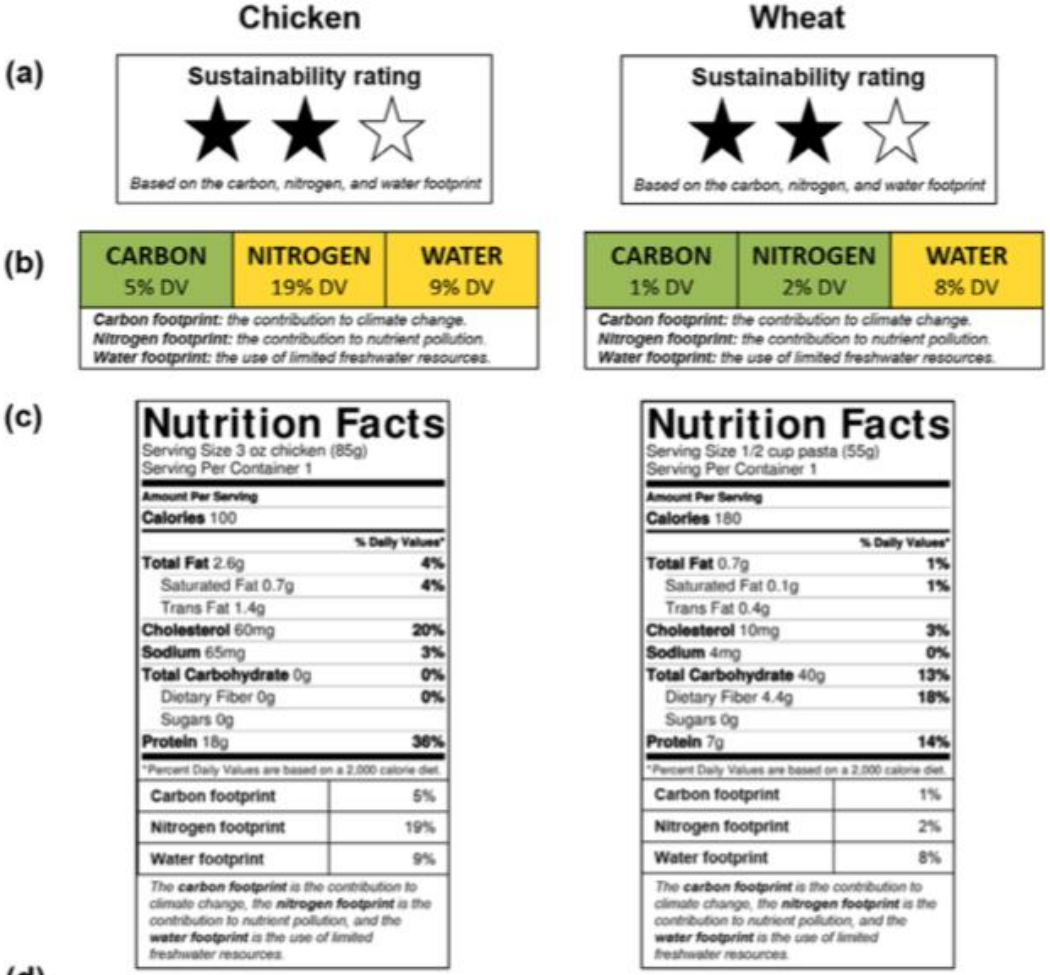
Conclusão

- O uso da rotulagem não melhorou a habilidade do consumidor de avaliar o alimento sustentável.
- Os autores duvidam do rótulo sustentável como método eficiente para aumentar a habilidade do consumidor de escolher o alimento sustentável.
- Campanhas de informação e educação são maneiras de propagar o conhecimento sobre alimentos sustentáveis, o que leva a percepção do consumidor sobre seus benefícios ao meio ambiente e outros aspectos

Table 1
Three footprint calculation methods and four environmental impact label designs. The table explains how each calculation method and label design can be used together. The labels integrate carbon (C), nitrogen (N), and water (W) footprints.

	Footprint calculation methods		
	Footprint weight *(Mass-based approach)*	Sustainability measures *(% of possible sustainability measures employed)*	% Daily value *(Contribution of food footprints to reference footprint)*
Label designs			
Stars label	• Assign stars to C, N, and W footprints based on pre-determined mass ranges • Average the C, N, and W footprint stars	• Assign stars to C, N, and W footprints based on % of identified sustainability criteria met • Average the C, N, and W footprint stars	• Assign stars to C, N, and W footprints based on a food item's % daily value of a reference footprint • Average the C, N, and W footprint stars
Stoplight label	• Assign stoplight colors to C, N, and W footprints based on pre-determined mass ranges • Present individual footprints and colors	• Assign stoplight colors and rating (low, medium, high) to C, N, and W footprints based on meeting identified sustainability criteria • Present individual footprint rating (low, medium, high) and colors	• Assign stoplight colors to C, N, and W footprints based on a food item's % daily value of a reference footprint • Present individual footprint colors and % DV
Nutrition label add-on	• Report C, N, and W footprint weight	• Report C, N, and W footprint rating (low, medium, or high) based on % of sustainability criteria	• Report C, N, and W % daily value
Detailed comparison label	• Define footprints • Report C, N, and W footprint weight • Compare to footprints within and beyond food category	• Define footprints • Report C, N, and W footprint rating (low, medium, or high) based on % of sustainability criteria • Compare to footprints within and beyond food category	• Define footprints • Report C, N, and W % daily value • Compare to footprints within and beyond food category

Leach *et al.*, 2016.
Food Policy, 61, 213-223.



(d)

1 serving of chicken is...	This footprint is equivalent to...		1 serving of wheat is...	This footprint is equivalent to...	
5% of your daily carbon footprint	0.1 servings of beef or 0.5 servings of pork	Driving 3 miles	1% of your daily carbon footprint	0.1 servings of rice or 0.8 servings of corn	Driving 0.05 miles
19% of your daily nitrogen footprint	0.4 servings of beef or 0.7 servings of pork	0.3 cups of fertilizer	2% of your daily nitrogen footprint	1 servings of rice or2.4 servings of corn	0.03 cups of fertilizer
9% of your daily water footprint	0.2 servings of beef or 0.5 servings of pork	2.0 showers or 21 toilet flushes	8% of your daily water footprint	1 servings of rice or 2.5 servings of corn	1.7 showers or 18 toilet flushes

Fig. 3. Four proposed environmental impact food label designs showing the carbon, nitrogen, and water footprints of chicken and wheat. The three designs are: (a) stars label, (b) stoplight label, (c) US FDA nutrition label add-on, and (d) detailed comparison label. The % daily value calculation method was used for all label designs in this demonstration, but other calculation methods could be used.

Leach *et al.*, 2016.
Food Policy, 61, 213-223.

MENUS of CHANGE®

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HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH
Department of Nutrition

PRINCIPLES OF HEALTHY, SUSTAINABLE MENUS

MENUS of CHANGE
The Business of Healthy, Sustainable, Delicious Food Choices

The Culinary Institute of America | HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH Department of Nutrition

MENU CONCEPTS AND GENERAL OPERATIONS

BE TRANSPARENT ABOUT SOURCING AND PREPARATION

BUY Fresh AND SEASONAL, LOCAL AND GLOBAL

REWARD BETTER AGRICULTURAL PRACTICES

LEVERAGE GLOBALLY INSPIRED, PLANT-FORWARD CULINARY STRATEGIES

FOCUS ON WHOLE, MINIMALLY PROCESSED FOODS

GROW EVERYDAY OPTIONS, WHILE HONORING SPECIAL OCCASION TRADITIONS

CELEBRATE CULTURAL DIVERSITY & DISCOVERY

LEAD WITH **MENU MESSAGING AROUND FLAVOR**

REDUCE PORTIONS, EMPHASIZING CALORIE QUALITY OVER QUANTITY

DESIGN HEALTH AND SUSTAINABILITY INTO OPERATIONS AND DINING SPACES

FOODS AND INGREDIENTS

THINK PRODUCE FIRST

MAKE WHOLE, INTACT GRAINS THE NEW NORM

LIMIT POTATOES

MOVE LEGUMES AND NUTS TO THE CENTER OF THE PLATE

CHOOSE HEALTHIER OILS

GO "GOOD FAT," NOT "LOW FAT"

REIMAGINE DAIRY IN A SUPPORTING ROLE

SERVE MORE KINDS OF SEAFOOD, MORE OFTEN

USE POULTRY AND EGGS IN MODERATION

REDUCE ADDED SUGAR

SERVE LESS RED MEAT, LESS OFTEN

CUT THE SALT; RETHINK FLAVOR DEVELOPMENT FROM THE GROUND UP

SUBSTANTIALLY REDUCE SUGARY BEVERAGES; INNOVATE REPLACEMENTS

DRINK HEALTHY: FROM WATER, COFFEE, AND TEA TO (WITH CAVEATS) BEVERAGE ALCOHOL

DESIGNED BY

THE CULINARY INSTITUTE OF AMERICA®

THE PROTEIN FLIP

A DELICIOUS STRATEGY FOR CHANGE

TRANSFORMING PROTEIN MENU CONCEPTS

FOR THE HEALTH OF OUR CUSTOMERS AND OUR PLANET

THE PROTEIN FLIP

The Culinary Institute of America

Much attention is given to the increasing rates of meat consumption in the developing world – but Americans can be a big part of the solution:

AMERICANS EAT 3X AS MUCH MEAT (RED MEAT AND POULTRY) AS THE GLOBAL AVERAGE.

OVER HALF IS RED MEAT.

AMERICANS EAT AN AVERAGE OF 3 BURGERS A WEEK.*

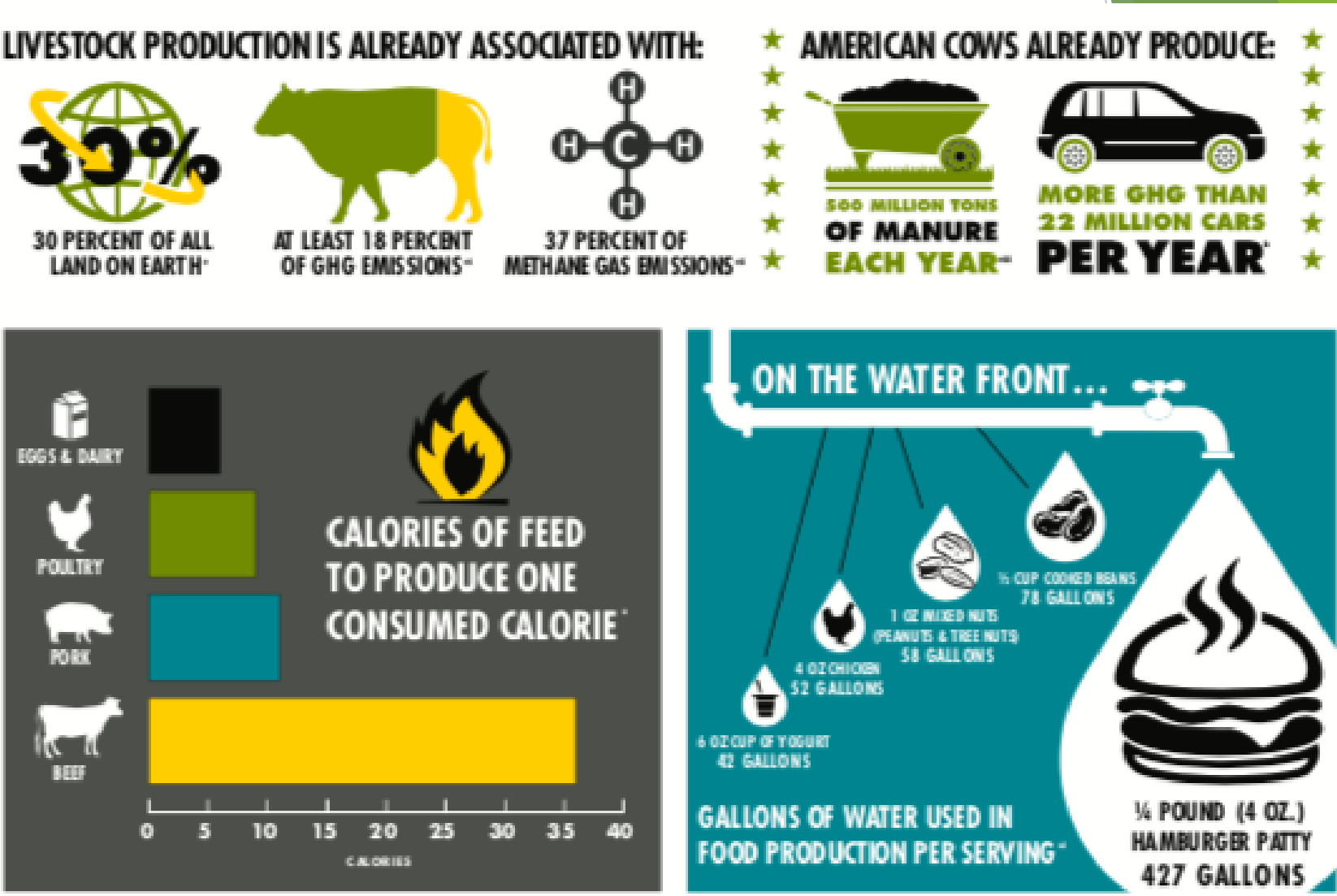
THAT'S 10 BILLION BURGERS PER YEAR– JUST BY ONE COUNTRY.

WHAT IF WE ALL ATE ONE LESS BURGER PER WEEK? OR A DIFFERENT KIND OF BURGER?

What if we did even more: reducing our consumption of red meat to a few ounces per week and switching to other animal and plant proteins with smaller environmental footprints?

WHY IS THIS AN ISSUE?

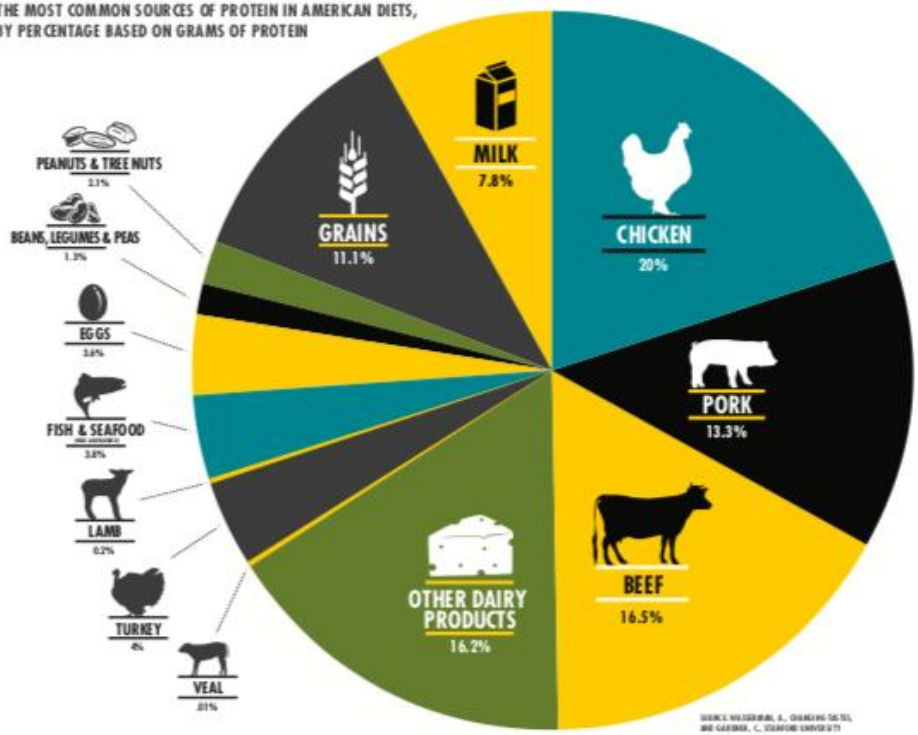
IF WORLDWIDE DEMAND FOR LIVESTOCK PRODUCTS CONTINUES ON ITS CURRENT COURSE, IT COULD INCREASE 70 PERCENT BY 2050.


LIVESTOCK PRODUCTION IS ALREADY ASSOCIATED WITH:
30%
30 PERCENT OF ALL LAND ON EARTH*
AT LEAST 18 PERCENT OF GHG EMISSIONS**
H C H H H
37 PERCENT OF METHANE GAS EMISSIONS**
AMERICAN COWS ALREADY PRODUCE:
500 MILLION TONS OF MANURE EACH YEAR**
MORE GHG THAN 22 MILLION CARS PER YEAR*
EGGS & DAIRY
POULTRY
PORK
BEEF
CALORIES OF FEED TO PRODUCE ONE CONSUMED CALORIE*
0 5 10 15 20 25 30 35 40
CALORIES
ON THE WATER FRONT...
6 OZ CUP OF YOGURT 42 GALLONS
4 OZ CHICKEN 52 GALLONS
1 OZ MIXED NUTS (PEANUTS & TREE NUTS) 58 GALLONS
½ CUP COOKED BEANS 78 GALLONS
¼ POUND (4 OZ.) HAMBURGER PATTY 427 GALLONS
GALLONS OF WATER USED IN FOOD PRODUCTION PER SERVING**

THE PROTEIN FLIP

IN THE U.S., ANIMAL SOURCES ACCOUNT FOR AS MUCH AS 85% OF THE PROTEIN WE EAT

THE MOST COMMON SOURCES OF PROTEIN IN AMERICAN DIETS, BY PERCENTAGE BASED ON GRAMS OF PROTEIN



WE LARGELY MISS OUT ON A WHOLE WORLD OF PLANT PROTEINS

WHEN YOU REACH FOR PLANT PROTEIN CHOICES—BEANS, PEAS, AND OTHER LEGUMES, NUTS AND NUT BUTTERS, SEEDS, AND SOY FOODS—REMEMBER THAT MANY WHOLE GRAINS, VEGETABLES, AND FRUITS CAN ALSO MAKE MEANINGFUL CONTRIBUTIONS TO YOUR CUSTOMERS' DAILY PROTEIN NEEDS.

THE PROTEIN FLIP

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THE BETTER BURGER

THE ICONIC AMERICAN BURGER: NEW FRONTIERS IN FLAVOR DISCOVERY

CHEFS AND OPERATORS EVERYWHERE ARE EXPERIMENTING WITH PLANT-FORWARD BURGER INNOVATION. THESE PHOTOS ILLUSTRATE A VARIETY OF FLIP STRATEGIES.

THE BLEND...

PORTOBELLO, BEEF, AND JALAPEÑO BURGER, FROM SODEXO

TURKEY BURGER WITH MUSHROOM DUXELLE, FROM VALE DINING

MOROCCAN LAMB EGGPLANT BURGER WITH MINTED YOGURT AND CARAMELIZED PEPPERS AND ONIONS

ROASTED SHIITAKE MUSHROOM AND BEEF BURGER WITH POBLANO PEPPERS, PEPPERJACK CHEESE, AND CILANTRO LIME AIOLI

...AND VEGETARIAN VERSIONS

WHITE BEAN PATTY, GOAT CHEESE, AVOCADO, SPROUTS, LEMON AIOLI, FROM IRIA RESTAURANT

PEANUT, MUSHROOM, AND FARRO BURGER WITH ARUGULA AND TOMATO CHUTNEY WITH CRISPY SWEET POTATO CHAAT, FROM CHEF SUVIR SARAN

LENTIL, BARLEY, AND BLACK BEAN BURGER WITH MANGO CHUTNEY, FROM DAVIDSON HOTELS & RESORTS

WILD RICE POLENTA BURGER INCLUDING MUSHROOMS, CARROTS, AND LEEKS, FROM RESTAURANT 301 AT THE SHERATON DULUTH HOTEL

IT'S THE NEW NORM: 77% have a burger on the menu with a significant percentage of the patty from plant or vegetable components, either blended with meat or strictly vegetarian.

IT'S THE SAME PRICE: 60% said their non-traditional burger was the same price as other burgers or sandwiches.

IT WORKS: 70% saw success from putting a vegetarian or meat-blended burger on their menu

According to a CIA-Datassential survey of over 600 foodservice operators conducted in spring 2015; percentages are of operators surveyed.


SAUCEY

Spencer *et al.*, 2018. *Food Quality and Preference*, 68, 60-63.

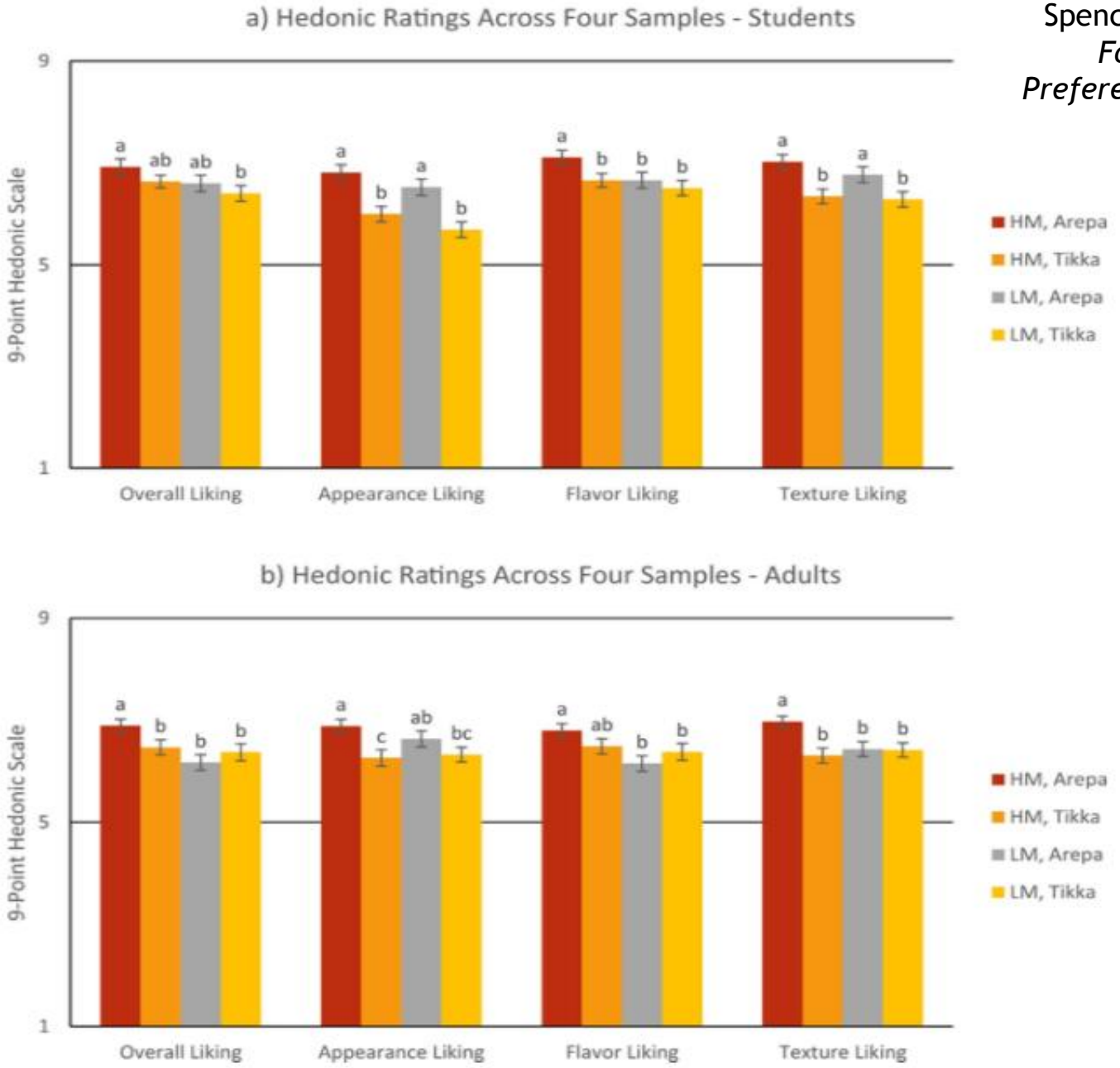

Fig. 1. Mean ratings on the 9-point hedonic scale and standard error of the means (SEM) for a) students (n = 118 consumers) and b) adults (n = 110 consumers) for four samples, two recipes and two meat levels, for four hedonic categories: overall liking, appearance liking, flavor liking, and texture liking. Within each hedonic category, means with different superscripts are significantly different at $p < 0.05$. HM indicates high-meat/low-legume samples and LM indicates low-meat/high-legume samples.

Considerações

- Estamos preparados?
- O desejo dos consumidores pode ser pelo caminho da sustentabilidade mas há muito o que ser feito ainda!!!
- Mais pesquisas nacionais multidisciplinares

  partindo do meio acadêmico ou da iniciativa privada

  para entender os consumidores quanto a sua percepção

  de consumo sustentável de alimentos/serviços,

  serviços de alimentação sustentável, alimentos

  orgânicos, etc. e atender a esta tendência do

  mercado!

Obrigada!

ellen.menezes@unirio.br