**Appendix: Survey questionnaire**

Q1.1. This STUDY is part of a research project investigating the SENSORY ACCEPTABILITY and PREFERENCES of protein balls developed for physically active people. It is carried out by the Center … and the Department … of the …University … .  
  The RESULTS of this study will be used exclusively for RESEARCH and in NO CASE will they be used for PRIVATE purposes.   
  You will be compensated for your participation in this study with a **5€ Amazon gift voucher** if the full questionnaire is completed.  
  The average time required to complete the study is 20 minutes.  
  For any information or clarification about this study, you may contact … who will be at your disposal to provide you with more information.

* I confirm my consent to participate in this study
* I do not confirm my consent to participate in this study

Q1.2. You should not participate in this study if:  
- You have an allergy to peanuts, milk protein, crustaceans, molluscs, dust mites, soy, and /or eggs  
- You are pregnant  
- You are below 18 years old  
- You are a vegan or vegetarian  
- You have any disease or health condition that requires a special diet

* I do not belong to any of the mentioned categories.
* I belong to one of the mentioned categories and cannot participate in this study.

Q2.1. Do you do any moderate to vigorous-intensity sports, fitness, or recreational (leisure) activities that cause a small to high increase in breathing or heart rate for at least 10 minutes continuously (such as brisk walking, cycling, swimming, volleyball, running, football, gym workout, etc.)?

* Yes
* No

Q2.2. In a typical **week**, how many days do you do moderate to vigorous-intensity sports, fitness, or recreational (leisure) activities?

* 1 day per week
* 2 days per week
* 3 days per week
* 4 days per week
* 5 days per week
* 6 days per week
* 7 days per week

Q2.3. On a typical **day**, how much time **in minutes** do you spend doing moderate to vigorous-intensity sports, fitness, or recreational (leisure) activities?   
  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q3.1. Select your frequency of consumption of **high-protein snacks** (*protein bars, high-protein yogurt, protein cookies, protein jelly, etc.*), **high-protein beverages** (*protein shakes, protein smoothies, etc.*), or **protein powder** used as an ingredient in a snack or beverage that you prepared at home.

* Never
* About once a month
* Few times a month
* Once a week
* Several times a week
* Daily
* Irregularly/sporadically

Q3.2. Which type of protein supplement do you consume in high-protein snacks, beverages, or protein powder? You may select more than one answer.

* Milk protein (casein, whey, or a mixture of both)
* Albumin/egg white protein
* Soy protein
* Pea protein
* Algae protein
* Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q3.3. What are the factors that may affect your choice of high-protein snacks, beverages, or protein powder? Select the **three most important** factors.

* Price
* Brand
* Origin
* Packaging
* Shelf-life
* Flavor *(vanilla, chocolate, etc.)*
* Protein content *(per 100g, per 100mL, per serving, etc.)*
* Protein type
* Sweetener type *(sugar; natural sweetener: dates, honey, agave, etc.; artificial: aspartame, saccharin, etc.)*
* Nutrition claim *(for example: high protein, high fiber, low sugar, high iron, high zinc, high magnesium, high Vit B12, etc.)*
* Presence of additives/preservatives

Q4. Indicate your level of agreement with the following statements on a scale from 1 (strongly disagree) to 7 (strongly agree):

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Somewhat disagree (3) | Neither agree nor disagree (4) | Somewhat agree (5) | Agree (6) | Strongly agree (7) |
| The healthiness of food has little impact on my food choices. |  |  |  |  |  |  |  |
| I am very particular about the healthiness of the food I eat. |  |  |  |  |  |  |  |
| I eat what I like and I do not worry much about the healthiness of food. |  |  |  |  |  |  |  |
| It is important to me that my diet is low in fat. |  |  |  |  |  |  |  |
| I always follow a healthy and balanced diet. |  |  |  |  |  |  |  |
| It is important to me that my daily diet contains a lot of vitamins and minerals. |  |  |  |  |  |  |  |
| The healthiness of snacks makes no difference to me. |  |  |  |  |  |  |  |
| I take notice of how much groceries contain protein. |  |  |  |  |  |  |  |

Q5. Indicate your level of agreement with the following statements on a scale from 1 (strongly disagree) to 7 (strongly agree):

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Somewhat disagree (3) | Neither agree, nor disagree (4) | Somewhat agree (5) | Agree (6) | Strongly agree (7) |
| Despite our special abilities, humans are still subject to the laws of nature. |  |  |  |  |  |  |  |
| Plants and animals have as much right as humans to exist. |  |  |  |  |  |  |  |
| Humans have the right to modify the natural environment to suit their needs. |  |  |  |  |  |  |  |
| The balance of nature is very delicate and easily upset. |  |  |  |  |  |  |  |
| The so-called “ecological crisis” facing humankind has been greatly exaggerated. |  |  |  |  |  |  |  |
| Humans are severely abusing the environment. |  |  |  |  |  |  |  |
| The balance of nature is strong enough to cope with the impacts of modern industrial nations. |  |  |  |  |  |  |  |
| Humans were meant to rule over the rest of nature. |  |  |  |  |  |  |  |

Q6. Indicate your level of agreement with the following statements on a scale from 1 (strongly disagree) to 7 (strongly agree):

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Somewhat disagree (3) | Neither agree nor disagree (4) | Somewhat agree (5) | Agree (6) | Strongly agree (7) |
| I am constantly sampling new and different foods. |  |  |  |  |  |  |  |
| I don’t trust new foods. |  |  |  |  |  |  |  |
| If I don’t know what is in a food, I won’t try it. |  |  |  |  |  |  |  |
| I like foods from different countries. |  |  |  |  |  |  |  |
| Ethnic food (of other cultures) looks too weird to eat. |  |  |  |  |  |  |  |
| At dinner parties, I will try a new food. |  |  |  |  |  |  |  |
| I am afraid to eat things I have never had before. |  |  |  |  |  |  |  |
| I like to try new ethnic restaurants (of other cultures). |  |  |  |  |  |  |  |

Q7. During this study, you will try five different protein balls from different protein sources. One of the balls is a commercial product that is sold at the marketplace.  
   
 It is recommended not to consume the whole ball at once as you might need to taste it one more time for another question.  
   
 **IMPORTANT:** THE BALLS SHOULD BE CONSUMED WITHIN **THREE DAYS** AT MOST AND KEPT REFRIGERATED.  
  
 ONCE YOU START TASTING THE BALLS, PLEASE CONTINUE WITH ALL FIVE PROTEIN BALLS ONE AFTER THE OTHER until you reach the end of the questionnaire.  
   
 THE BALLS **SHOULD NOT BE SOAKED IN ANY DRINK** (MILK, COFFEE, ETC.) AND SHOULD BE TASTED ON THEIR OWN.

Q7.1. Please take some water, select any one of the protein balls, and indicate its identification code:

* 917
* 421
* 734
* 542
* 256

Q7.2. Taste the ball and then indicate how much you like the product on a scale of 1 (dislike extremely) to 9 (like extremely) considering overall its appearance, aroma, texture, and taste.

* Absolutely dislike
* Dislike very much
* Moderately dislike
* Slightly dislike
* Neither like, neither dislike
* Slightly like
* Moderately like
* Like very much
* Absolutely like

Q7.3. Comments:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q8.1. Please take some water, select another new protein ball, and indicate its identification code:

* 917
* 421
* 734
* 542
* 256

Q8.2. Taste the ball and then indicate how much you like the product on a scale of 1 (dislike extremely) to 9 (like extremely) considering overall its appearance, aroma, texture, and taste.

* Absolutely dislike
* Dislike very much
* Moderately dislike
* Slightly dislike
* Neither like, neither dislike
* Slightly like
* Moderately like
* Like very much
* Absolutely like

Q8.3. Comments:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q9.1. Please take some water, select another new protein ball, and indicate its identification code:

* 917
* 421
* 734
* 542
* 256

Q9.2 Taste the ball and then indicate how much you like the product on a scale of 1 (dislike extremely) to 9 (like extremely) considering overall its appearance, aroma, texture, and taste.

* Absolutely dislike
* Dislike very much
* Moderately dislike
* Slightly dislike
* Neither like, neither dislike
* Slightly like
* Moderately like
* Like very much
* Absolutely like

Q9.3. Comments:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q10.1. Please take some water, select another new protein ball, and indicate its identification code:

* 917
* 421
* 734
* 542
* 256

Q10.2 Taste the ball and then indicate how much you like the product on a scale of 1 (dislike extremely) to 9 (like extremely) considering overall its appearance, aroma, texture, and taste.

* Absolutely dislike
* Dislike very much
* Moderately dislike
* Slightly dislike
* Neither like, neither dislike
* Slightly like
* Moderately like
* Like very much
* Absolutely like

Q10.3. Comments:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q11.1. Please take some water, select the last protein ball, and indicate its identification code:

* 917
* 421
* 734
* 542
* 256

Q11.2. Taste the ball and then indicate how much you like the product on a scale of 1 (dislike extremely) to 9 (like extremely) considering overall its appearance, aroma, texture, and taste.

* Absolutely dislike
* Dislike very much
* Moderately dislike
* Slightly dislike
* Neither like, neither dislike
* Slightly like
* Moderately like
* Like very much
* Absolutely like

Q11.3. Comments:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A brown bag with a label

Description automatically generatedQ12. In regards to the protein source of the protein balls that you have tasted, two of them are made with EDIBLE cricket flour that complies with European legislation, another two are made with milk protein, and one of them is a commercial product that is sold at the marketplace.  
   
 Cricket flour information:  
 - high in protein (70% protein)  
 - contains all essential amino acids  
 - can be used to supplement micronutrients like iron, zinc, magnesium, and calcium  
 - environmentally sustainable protein source: its production consumes fewer resources such as land, water, and feed compared to conventional sources of protein  
 - minimally processed compared to protein extracts  
 - safe to eat

As for the flavoring, two of the protein balls are flavored with carob powder, while the others are flavored with cocoa powder.  
   
 Carob powder information:  
 - sustainable alternative to cocoa powder  
 - carob tree grows along the Mediterranean coast and plays a role in protecting the soil  
 - recommended for athletes due to its high-energy content

A can of food on a white background

Description automatically generated

Q12.1. Studies show that people tend to act differently when answering a survey compared to when they are actually shopping. It may be because it is too difficult to measure the impact of a purchase in a survey on your actual budget. Please, imagine that you are in a store and that you really have to buy the product or NOT.  
   
**The market price of the protein ball with identification code 256 (enriched with whey protein isolate and flavored with cocoa) is 2.00 EUR per pack (5 balls=40g).**  
**How much would you be willing to pay for the following protein balls of the same serving size (5 balls=40 g)?**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1.25€ | 1.50€ | 1.75€ | 2.00€ | 2.25€ | 2.50€ | 2.75€ | Would not purchase |
| Protein ball (code 917) Enriched with milk protein isolate and flavored with cocoa |  |  |  |  |  |  |  |  |
| Protein ball (code 421) Enriched with milk protein isolate and flavored with carob |  |  |  |  |  |  |  |  |
| Protein ball (code 734) Enriched with edible cricket flour and flavored with cocoa |  |  |  |  |  |  |  |  |
| Protein ball (code 542) Enriched with edible cricket flour and flavored with carob |  |  |  |  |  |  |  |  |

Q13. When were the protein balls consumed?

* Before work-out/fitness/sports session
* After work-out/fitness/sports session
* At the start of the day or for breakfast
* Between meals as a snack
* After lunch
* After dinner
* Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q14. Which one of the following statements indicates your experience with edible insects (before conducting this study)?

* I have never tried edible insects in any form.
* I have tried edible insects on a single occasion.
* I have tried edible insects on a few occasions.

Q15. What are the motivations that may encourage you to consume foods based on edible insects? You may select more than one answer.

* Being a more sustainable alternative
* For its nutritional value
* Wanting to try exotic foods
* Contribute to the preservation of the environment and natural resources
* Contribute to the diversification of food production
* Contribute to increasing the income of families that can produce them
* Possibility of having protein foods at cheap prices
* None of these motivations would encourage me to consume foods based on edible insects

Q16. Select your gender:

* Male
* Female
* Non-binary
* Other/prefer not to mention

Q17. Indicate your year of birth:

▼ 2005 ... 1942

Q18. Select your highest level of education:

* Incomplete primary education
* Primary Education
* Secondary education (Academic or Technical School)
* Post-secondary education (University or Higher Vocational Education)

Q19. Select your employment status:

* Student
* Employee
* Entrepreuner/self-employed
* Retired
* Housework
* Seeking employment

Q20. Select your monthly net individual income:

* no income
* less than 1000 EUR
* 1000-1999 EUR
* 2000-2999 EUR
* 3000-3999 EUR
* 4000-4999 EUR
* 5000-5999 EUR
* 6000 EUR or above

Q21. What is the number of people living in your household (including you and excluding lodgers\*)?  
 *\* a person renting a room in your household*

* 1 person
* 2 people
* 3 people
* 4 people
* 5 people
* 6 people
* more than 6 people

Q22. Please add your email so that we can send you the Amazon gift voucher.    
It will be sent to you within the next 48 hours.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_