



12<sup>th</sup> edition

# PLANTS IN FOOD SYSTEMS & SUSTAINABILITY

a balancing act!

BRUSSELS

3 DECEMBER

2019



# WHAT WILL WE BE EATING TOMORROW: WHY IS THERE A TREND TOWARDS PLANT-BASED FOODS? #LBFCONFERENCE2019

The Louis Bonduelle Foundation Conference brought together a large panel of nutrition experts in Brussels to take stock of the role of plant-based foods in responding to current societal challenges. The fight against climate change, soil preservation, nutritional transition, increased balance in vegetarianism... here is everything you need to know from the 12<sup>th</sup> edition.

## SUMMARY:

After 50 years of promoting the importance of **fruit and vegetables on consumers' plates**, many countries are now embarking on a **second nutritional transition**. Faced with the challenge of global food sustainability, the response lies in a significant increase in the share of plant-based foods in overall diets.

The stakes are high: **meeting the nutritional needs** of an exponentially growing world population, **slowing global warming, preserving soils and maintaining food quality**, all while bringing about **lasting changes in people's behaviour**.

The **LOUIS BONDUELLE FOUNDATION CONFERENCE** offers an **overview** of this global evolution towards a diet that is **increasingly rich in plant-based products**.

The 12<sup>th</sup> Louis Bonduelle Foundation Conference, chaired by Quebec nutritionist Catherine Lefebvre, was entitled '**Plants in food systems and sustainability: a balancing act**'. Hosted exceptionally in Brussels, the Conference aimed to decipher the **nutritional transition of food systems around the world towards plant-based foods**. The Foundation's annual event was also the occasion to announce the winner of the Research Award, as well as the official launch of a new type of project in participatory research.



PICTURES OF THE CONFERENCE



Here is a **summary of the main contributions**. You can also download **the full speaker presentations** below. Feel free to share this report. We hope you will enjoy it.





## ARMANDO PEREZ-CUETO, COPENHAGEN UNIVERSITY (Denmark)

### THE VALUE OF *NUDGING* IN PROMOTING A SUSTAINABLE AND ETHICAL PLANT-BASED DIET.

The first speaker of the day, [Professor Armando Perez-Cueto](#) (University of Copenhagen), described how it is possible to use *nudging*, a marketing technique, to spontaneously promote **plant-based nutrition**. 'Nudges' are a form of soft influence to suggest new behaviours, in this case healthier eating, by reshaping certain aspects of consumer environments. In other words, *nudging* is making a choice seem obvious, rather than a rule or ban to be enforced.

**Why talk about nudging today?** While everyone agrees on the need to transition towards more plant-based products, putting **changes in consumer eating habits into practice** are proving to be **rather 'slow' when considering current challenges**.

'Ethical' and 'sustainable' levers are insufficient, and many obstacles towards change remain, including: social norms,

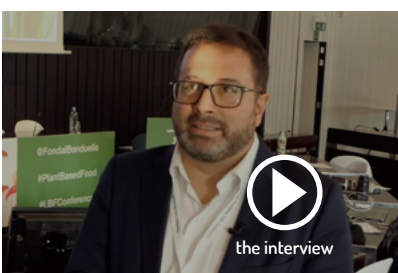
- the perceived importance of the role of animal proteins in health,
- prejudices around the flavour of plant-based products, especially those based on plant proteins,
- and lack of knowledge about how to cook them,
- age: the generation gap is significant in this respect.

According to Professor Perez-Cueto, the findings of the [VeggiEAT](#) European research project, which studied attitudes about vegetables among adolescents and the elderly, are of considerable value. **The study took place over five years, in four European countries (Italy, the United Kingdom, Denmark and France) and at different meal-catering locations** (university canteens, care homes, etc.) Three *nudging* techniques were implemented and proved to be particularly effective:

- The 'green' atmosphere in eating locations (plants, green dishes). This technique allowed for a reduction in calorie intake during meals.
- Offering a variety of vegetables in pre-determined portions. This technique significantly increased the consumption of vegetables.
- Offering a vegetarian dish of the day.

However, *nudging* techniques also need to be adapted according to age and geographical origin.

*«It is quite possible to induce significant, long-term changes in the consumption of plant-based foods with small changes in everyday life. Nudging is not only effective in increasing the consumption of plant-based products, but also in ensuring that this choice can be sustained over time.»*



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## BENJAMIN ALLÈS, INRA (France)

### NOT ALL VEGETARIAN DIETS ARE GOOD FOR YOUR HEALTH!

Benjamin Allès is a [nutritional epidemiologist and researcher at INRA](#). His intervention shed **new light on the nutritional quality of vegetarian and plant-based diets**. Let's begin with some context: for a growing number of consumers, it is not only possible, but urgent to imagine a planet without meat, or at least a place where meat is no longer as important as it is today. This assessment explains **the significant increase in recent years of flexitarianism and vegan movements around the world**. Should we therefore encourage and support the generalisation of this vegan movement and put humanity onto a 'meatless' diet?

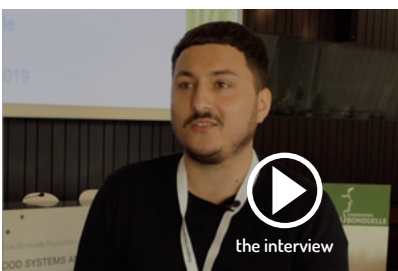
There are two important caveats to this argument. **The first is environmental**: the generalisation of a plant-based diet would require more land to feed the population than would a diet with moderate meat consumption. A world without livestock is not ideal either, as they play a fundamental role in the transfer of fertility to crops. Experts argue that instead of moving away from livestock, we need to rethink it by making it less intensive and to encourage agro-ecology.

**The second is nutritional: in a vegetarian diet, food quality is also a key consideration.** This is precisely where the problem lies for certain categories of **vegetarians tracked by Benjamin Allès in the Nutrinet-Santé study in France**.

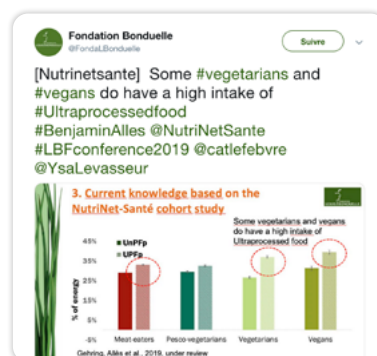
*«It is important for vegetarians and vegans, just as it is for omnivores, to relearn moderation and to strive for diversity in their diet, by limiting plant-based foods that are ultra-processed and/or of low nutritional quality.»*

Indeed, there is currently a broad diversity of plant-based diets: vegan, lacto-vegetarian, ovo-lacto-vegetarian, pescatarian, flexitarian,... This great variety of vegetarian diets is not without health consequences. While several epidemiological studies have highlighted the benefits of a vegetarian diet on the prevalence of cancer, cardiovascular disease, cataracts and excess weight, few of them distinguish between different forms of vegetarianism. Yet Benjamin Allès stresses that **the effect of a plant-based diet on health is highly dependent on its nutritional composition**. Indeed, **it has been proved that people who exclude meat from their diet, but don't choose the right plant-based foods, are equally, if not more, at risk of coronary heart disease than meat eaters!**

In other words, while a vegetarian diet must be well-balanced to avoid deficiencies, **it is essential to carefully choose the plant-based products that it includes**. In the work of Benjamin Allès, based on the NutriNet-Santé cohort, the tracking of food consumption among vegetarian populations reveals **among the youngest group a high proportion of plant-based foods that are 'ultra-processed and/or of low nutritional quality'**.



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## WIM DE VRIES, UNIVERSITY OF WAGENINGEN, (Netherlands)

### TO FEED 10 BILLION INDIVIDUALS BY 2050, WE NEED TO CHANGE OUR FOOD SYSTEMS NOW

Professor Wim de Vries from the University of Wageningen in the Netherlands focused on what needs to be done now and in the future to feed 10 billion people sustainably by 2050. A distant goal? Perhaps, but the changes needed to reach that goal are already underway! Since the 1800s, food demand and production have continued to grow.

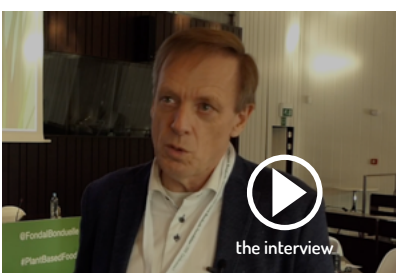
However, **the planet's resources have tended to diminish as a result of human activity and our diets.**

**One of the challenges is to maintain sufficient nitrogen inputs.** This element is essential for life and is found in the soil. It is renewed in particular by the activity of bacteria in the soil. But their amount is diminishing, mainly due to intensive agriculture. The necessary nitrogen supply is partly compensated by the addition of fertilisers to crops.

**But this method has its limits**, especially in view of global population growth (2 to 3 billion more people to feed by 2050), eating habits (increased demand for meat in Asia), but also paradoxically to cover biofuel needs. **Overall crop yields must therefore increase on a global scale to cover such needs, hence greatly increasing the pressure on agriculture.** While in regions such as Europe there is a potential for higher yields for cereals such as wheat, other parts of the world **face stagnating, even decreasing yields.** This is the case in India, China, Indonesia and the United States, for maize and wheat – countries where the earth's populations are the highest...

What is clear from these results is **that considerable investment in agriculture is needed in the coming decades in order to meet the challenges of growing food demand.** At the same time, we need to maintain a habitable environment for humans. **The following options propose to achieve this:**

- Contain the increase in food demand, especially for animal proteins
- Reduce intensive livestock farming and protect biodiversity
- Preserve and recycle water resources
- Develop and encourage plant-based foods
- Reduce soil degradation and promote soil regeneration (in nitrogen, bacteria, etc.)
- Significantly reduce **food waste**
- Promote the recycling of waste (human, animal and plant)
- Develop a **circular economy** in agriculture



*«We need a radical transformation of our food systems to feed 10 billion people in the future. This means halving food waste, reducing the consumption of animal protein and slightly increasing crop yields – simultaneously.»*

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## JACYNTHE LAFRENIÈRE, UNIVERSITY OF LAVAL (Canada)

### INCREASING ADHERENCE TO NUTRITIONAL RECOMMENDATIONS MEANS IMPROVING FOOD ASSESSMENT

Despite the ever-increasing number of dietary recommendations issued in recent years by official bodies in various countries, people's dietary habits have barely improved. To explain this curious phenomenon, we need to examine the factors that affect adherence to these recommendations – a methodological approach carried out by Jacynthe Lafrenière, a doctoral candidate at Université de Laval in Canada and winner of the Louis Bonduelle Foundation Research Award in 2017.

Dietary intake assessment is a cornerstone for nutritional research. However, the use of currently validated dietary assessment methods can lead to misleading results. Hence the focus of her research work at the Institute of Nutrition and Functional Foods at the Université de Laval, Quebec. **The strategies used involve direct observation of food intake, and the comparison of reported and actual intakes** with blood markers of vegetable and fruit consumption.

*«These two quick and simple food quality assessment tools could easily be implemented in a primary care setting, where food assessment is very difficult due to limited resources and expertise.»*

Preliminary results have been positive. **Thanks to the evaluation tool developed by Jacynthe Lafrenière and her team, participants were able to report the vast majority of items that they ate, while the size of the portion selected was closely correlated with the one they received.** The results suggest that this dietary assessment tool can provide a valid assessment of dietary intake. It is currently being tested on a larger scale, with a cohort of 1,000 subjects in five different cities in the Quebec province.

Jacynthe has also developed a **quick and simple food quality assessment tool that identifies individuals who risk poor quality intake.** Further studies are needed, however, to test the performance of this tool in primary care settings. The aim is to make these two methodologies available to health professionals in order to improve anamnesis and new dietary recommendations..



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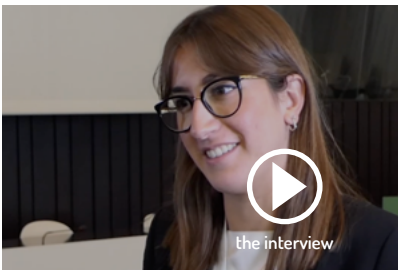


## FEDERICA BARABINO, LOUIS BONDUELLE FOUNDATION (Italy)

### 'Giochi di inOrto', A LONG-TERM FIELD ACTION FOR CHILDREN

**Promote good nutrition and fight food waste:** these are the two objectives of the Louis Bonduelle Foundation 'Giochi di inOrto' project in Italy. This recreational and educational activity was launched in 2012 and has already involved more than 3,000 children in 85 events throughout the country. It consists of a set of 30 large, colourful squares setting out, step by step, the path towards creating a real vegetable garden. As well as preparing the soil, sowing, tending and harvesting the vegetables, the children (aged 6-12) are divided into supervised teams taking part in interactive games designed to teach them and their parents how to reduce food waste. It also includes sensory experiences to make the children more familiar with vegetables.

*«2019 has been a real success for 'Giochi di inOrto', with more than 300 children taking part in 11 events, which gave rise to 185 articles in the national and local press.»*



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## LAURENCE DEPEZAY, LOUIS BONDUELLE FOUNDATION (France)

### HOW OUR SCIENTIFIC RESEARCH HELPS TO ADAPT OUR FUNDING

Over the past two years, the Louis Bonduelle Foundation’s research team has evaluated the impact of nutrition workshops for children, in particular focusing on the consumption of vegetables and pulses.

According to Laurence Depezay, head of scientific relations at the Foundation, the main conclusion of this assessment is that it is **always more relevant to combine training with a practical workshop, rather than carrying out a single activity, regardless of the level of neophobia, or the type of workshop in question** (culinary, gardening or other). The best type of training remains **the acquisition of nutritional knowledge**. These studies also show that **learning to cook is probably one of the key steps in ensuring that children eat better**.

The results of these studies, gathered under the acronym **EPICALIM**, are available below and summarised in our infographic:

- [Making children love vegetables starts with cooking!](#)
- [The use of diverse methods for effective nutrition education](#)
- [How to get children to eat more vegetables](#)
- [Nutrition education: improving its impact](#)

*«The experience of EPICALIM has been rich in lessons learned: it shows, among other things, that it is increasingly relevant to better understand the impact of field actions, with rigorous measures. This is why we have decided to explore a new way to fund action and research with a new call for projects entitled: Participatory research towards a more plant-based diet.»*







## GUILLAUME DEBROSSE, CHIEF EXECUTIVE OFFICER OF THE BONDUELLE GROUP

### WE ARE OFFICIALLY LAUNCHING OUR NEW CALL FOR PARTICIPATORY RESEARCH PROJECTS

The Conference was an occasion for **Guillaume Debrosse to officially announce the launch of a new call for projects by the Foundation**: “Thanks to this new funding programme, the Louis Bonduelle Foundation intends to take part in the current debate and to continue its actions, wherever it is present in the world, to advance scientific

knowledge while mobilising for social change.”

The **new call for projects** is called “**Participatory research: incorporating more plant-based food**”. The call is currently open. To participate, submit your project on the Foundation’s website before 29 February 2020. This is an innovative way for the Foundation to support projects led by research collectives of a new kind, made up of citizens and researchers.

*«This new type of call for projects offers the double advantage of advancing scientific knowledge while involving citizens, both as actors in the project and as beneficiaries.»*



**SUBMIT YOUR PROPOSAL...  
PARTICIPATE NOW!**





## CHRISTOPHE BONDUELLE, PRESIDENT OF THE LOUIS BONDUELLE FOUNDATION

CONGRATULATIONS TO LUCIE WIART, WINNER OF THE 2019 RESEARCH AWARD!

As the Conference came to an end, Christophe Bonduelle presented the 2019 Research Award to Lucie Wiart, a doctoral student at the University of Lille, whose thesis, “Over-consumption of meat and sustainable eating: are meat-substitute products possible alternatives?”, was selected by the Jury in 2019. She will receive financial support from the Foundation to carry out her work and finalise her research.



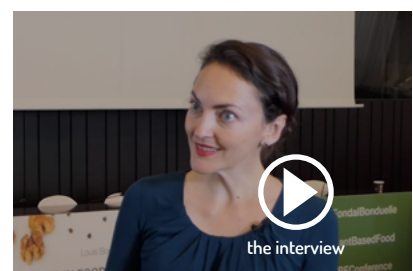
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## CATHERINE LEFEBVRE NUTRITIONIST AND COLUMNIST (Canada)

CHAIRMAN OF THE 2019 CONFERENCE

The 12<sup>th</sup> edition of the Louis Bonduelle Conference ended with the closing words by Catherine Lefebvre. According to her, this event was an opportunity to question ourselves about the quality of our plant-based diets, but also to discuss other food-related factors, such as soil quality.





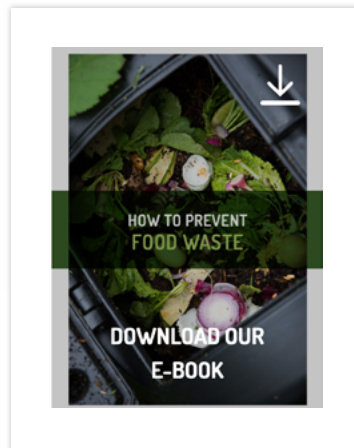
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Plant-based diet, a balancing act  
(Monograph)



How to prevent food waste  
(eBook)



Understanding our behavioural shifts towards an increasingly plant-based diet  
(Summary)

