



## Planetary Health Diet – healthy and climate-friendly nutrition

The interview with Dr Martin Kussmann from the Kompetenzzentrum für Ernährung is about sustainable nutrition that is good for the planet and human health. The planetary boundaries are playing an increasingly important role in the production of food, as resources are limited. The aim is to feed a growing world population in a healthy way without overburdening the planet. To achieve this, the EAT Lancet Commission recommends a plant-based diet that can be supplemented with animal components. In addition, global distribution problems in food production must be taken into account. A sustainable diet can vary in different regions of the world. Regional peculiarities can provide orientation and locally available resources should be utilised.

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KUestions is a video podcast format produced by the Akademie für Neue Medien (Bildungswerk) e.V. and the University of Bayreuth for the project Ernährungsradar. Experts are interviewed on various topics in the context of nutrition and report on the current state of research. The interview was conducted by Matthias Will from the Akademie für Neue Medien (Bildungswerk) e.V. and Helen Regina, a Master's student of Food Quality and Safety at the University of Bayreuth.

### Recommended literature on the topic

Webb P, Livingston Staffier K, Lee H, Howell B, Battaglia K, Bell BM et al. (2023). Measurement of diets that are healthy, environmentally sustainable, affordable, and equitable: A scoping review of metrics, findings, and research gaps. *Frontiers in Nutrition*. <https://doi.org/10.3389/fnut.2023.1125955>

Kussmann M, Abe Cunha DH, Berciano S (2023). Bioactive compounds for human and planetary health. *Frontiers in Nutrition*. <https://doi.org/10.3389/fnut.2023.1193848>

Kaput J, Kussmann M, Mendoza Y, Le Coutre R, Cooper K, Roulin A (2015). Enabling nutrient security and sustainability through systems research. *BMC Genes & Nutrition*. <https://doi.org/10.1007/s12263-015-0462-6>

EAT-Lancet Commission on Healthy Diets From Sustainable Food Systems (2019). Summary Report of the EAT-Lancet Commission: Healthy Diets From Sustainable Food Systems – Food – Planet – Health. [https://eatforum.org/content/uploads/2019/07/EAT-Lancet\\_Commission\\_Summary\\_Report.pdf](https://eatforum.org/content/uploads/2019/07/EAT-Lancet_Commission_Summary_Report.pdf)

Bundeszentrum für Ernährung (2020). Planetary Health Diet – Strategie für eine gesunde und nachhaltige Ernährung. <https://www.bzfe.de/nachhaltiger-konsum/lagern-kochen-essen-teilen/planetary-health-diet/>

### **English translation of the German interview transcript**

Matthias Will: Dear audience, do you have a diet plan? If so, then of course you know how time-consuming it is to draw one up and of course you also know that it is even more difficult to stick to it. An individualised nutrition plan, well, we can all imagine that, but a meal plan for the whole world, that sounds quite audacious. But that is exactly what we want to talk about today. We, that is Matthias Will, I am from the Akademie für Neue Medien.

Helen Regina: And I am Helen Regina, a Master's student at the University of Bayreuth. Today's interview on the topic of the Planetary Health Diet is part of the Ernährungsradar project. Our partners are the University of Bayreuth, the Akademie für Neue Medien and the Kompetenzzentrum für Ernährung in Kulmbach and Freising. Our interview partner is Dr Martin Kussmann. He is Head of Nutritional Knowledge and Innovation at the Kompetenzzentrum für Ernährung. Dr Martin Kussmann, welcome. Scientists have developed a food plan for the planet. What exactly does that mean?

Dr Kussmann: Yes, a food plan for the planet does indeed sound very ambitious. It is the first of its kind and this food plan attempts to define how the human population of currently eight billion, soon to be 10 billion, can eat healthily and sustainably without overtaxing our planet. In other words, everyone should be able to consume enough energy and nutrients without the planet suffering too much.

Matthias Will: As you mentioned, this diet plan is based on a model developed by the Swedish researcher Johann Rockström. He has defined planetary boundaries. Can you explain to us exactly what he means by this and, above all, in simple terms?

Dr Kussmann: Of course, the planetary boundaries are actually already reflected in the terminology. They are the limits to the use of resources on our planet that the earth can afford in the long term. We can compare this with the gross national product of a country, for example. Every country produces a total output of services and materials, and the earth produces the same. It provides us with a total output every year. And if the expenditure is higher than the income, then the state goes into debt, or the earth is consumed. At present, humanity consumes around one and a half gross national products, and I do not think you have to be a sustainability expert to realise that this is not possible in the long term.

Matthias Will: What are the core messages of the EAT Lancet Commission, which has precisely designed this food plan for the world?

Dr Kussmann: We currently have two major sustainability problems. These are the sustainable production of energy and food. These are the top priorities that we need to tackle. So, in my opinion, the most important core message is that the Earth does not have a capacity problem, but that humanity has a consumption, distribution and utilisation problem. We make too little of what the planet has to offer, we waste too much, and we distribute it badly. That is the point. The planet can do this, but it is not compatible with our behaviour. Another message is that human health simply cannot be decoupled from planetary health. This is the so-called One Health concept. In the long term, there can only be healthy people and animals on our planet if the planet is also healthy. And in my opinion, perhaps even the most important, most efficient, and cheapest contribution to greater sustainability is a reduction in food waste. Just think about it: every third calorie we produce is thrown away. Every third calorie - we can try to save everything else, but if we cannot get to grips with throwing away a third of our food, then sustainability will not work. That is very important. And then, of course, there is a lot of talk about animal and plant-based food. We consume too much animal protein at the moment, and we need to reduce that, we can replace some of it with plants, but we will come to that later.

Matthias Will: It is said that 11 million premature deaths could be avoided each year through this Planetary Health Diet. Is that a realistic figure?

Dr Kussmann: I would like to say two things about that. It is extremely difficult to really calculate the Planetary Health Diet, which the EAT Lancet Commission has done quite successfully. It is even more difficult to quantify the deaths and health consequences; I simply do not want to commit myself here to assessing this figure of 11 million. What is clear, however, is the following: The planetary health diet not only conserves the planet and resources, but is also healthier for humans compared to, for example, excessive calorie consumption and excessive meat consumption. It therefore also has health benefits and if the planet stays healthier for longer, there is less environmental damage, the environment remains more intact, more liveable and this in turn has a strong impact on human health. So, the effect is clear: sustainability and health - but I do not want to commit myself to 11 million.

Helen Regina: The recommendations of the Planetary Health Diet are based on a daily intake of 2500 kilocalories. Can this apply to everyone in the world, regardless of their physical activity and energy requirements?

Dr Kussmann: The short answer is: no. But the longer answer is: it is a very good guideline. 2500 kilocalories is a good, manageable figure. We always like to be very precise in Germany, and of course you can debate whether it is 2350 or 2710, but the important thing is that 2500 kilocalories is a good guideline that you can calculate with and that is a good basis. However, this energy requirement naturally depends on age, body size, physical activity, constitution, fitness and state of health. But that is a good figure.

Helen Regina: Admittedly, that is a pointed question: should we eat a vegan diet as a consequence?

Dr Kussmann: A short answer here too: no, in my opinion. In my opinion, a vegan diet is an individual option but not a global necessity. Here is the thing: if you eat a purely vegan diet, it means that you do not consume any animal products at all, e.g. no milk and no eggs. You have to make sure that you get high-quality protein and the micronutrients that otherwise come from animal sources. That is the number one issue. And secondly, I am convinced that a good mix of a flexitarian diet - I am a flexitarian myself, with very moderate meat consumption, significantly reduced compared to today - and a vegetarian diet, which does not include meat and fish but does allow eggs and milk, for example, can make a very good contribution to reasonable sustainability.

Matthias Will: Dr Kussmann, how can we succeed in reducing global meat consumption without causing economic and social upheaval? We know that meat production is important for countries in South America, for example.

Dr Kussmann: Yes, that is one of those one-million-dollar questions.

Matthias Will: That is why we are asking it.

Dr Kussmann: That is why we are dealing with them here. First of all, I would say that this is not just about meat consumption. It is an issue of sustainable nutrition, but by no means the only one. What it is about, and you are addressing the challenge of global networking here, is that it is not just a question of how much of what is consumed where, but also how much of what is produced where. And that often cannot be reconciled. We all know that when you go to the supermarket, most of the food or many of the products that are available there do not come from the region. So production and consumption are not necessarily always in the same region. That is point number one. And that is why the planetary health diet cannot be rolled out as a standardised recipe across the entire planet. It varies too much from region to region. Now specifically to your question: meat consumption down and economic rejection - I myself have lived in New Zealand. There, for example, it is possible to produce free-range meat, with relatively few resources and in extremely good quality, and it is a very important economic factor for this country. Argentina is another example. So, it would also be somewhat cynical to say that these countries should no longer do this. That would not be fair either. So, we have to find a balance between producing food where the resources are sensibly available and a balance between consumer demand and sensible transport routes. That has to be equalised.

Matthias Will: How can consumers generally be sensitised to sustainable nutrition in the most meaningful way?

Dr Kussmann: That is one of my favourite questions, because ultimately it is about valuing food. And, to start with, a more sustainable and healthier food system will not be possible without more investment from consumers, at least in the highly developed countries. This is an uncomfortable truth, but it is a truth. To go into more detail, it is about this appreciation, and I am of the opinion that nutrition is by far the best investment in health, quality of life and enjoyment. This may be perceived subliminally, but it is not appreciated accordingly. And from my international experience and as a returnee to Germany, I can say that I hardly know of any other country that is so highly developed and where the price-performance ratio in the food sector is so good. Nevertheless, there is a lot of moaning here about high food prices - just to put this into perspective internationally. A few more figures: 50 years ago, for example, the German population spent about half of its budget on food and drink, today it is five to ten per cent. We live in a bit of a flat screen and frozen pizza culture: we afford a lot of technology; food has to be cheap. That will not work in the long term. And a key point in increasing appreciation and sensitising the population to sustainability and health is school education. Nutrition is practically absent from school education; it has been lost. In my view, this is the first place we need to start again.

Helen Regina: What concrete steps can be taken to implement the ideal meal plan for the world on a regional level?

Dr Kussmann: Another million-dollar question. But we are working on it here, also at the KErn (Kompetenzzentrum für Ernährung) and at the LfL (Bayerische Landesanstalt für Landwirtschaft). First of all, you were right to say that there is no such thing as the ideal diet for the planet because of regional differences. And translating and implementing the Planetary Health Diet for the different regions of the world is at least as big a challenge as creating the Planetary Health Diet in the first place. This is because the regional conditions are very different in terms of climate, terrestrial conditions, cultural conditions, economic conditions - everything is different. And we - I can perhaps give you a concrete example of how we approach this. We are trying to implement the Planetary Health Diet in the so-called Bavarian Health Diet. That means: how can we in Bavaria, while preserving the enjoyment aspect - if it does not taste good, nobody will eat it, no matter how healthy it is - and while preserving the regional specialities that we have here and the regional structures that we have in agriculture, for example, how can we manage to implement much of the Planetary Health Diet appropriately here in Bavaria, without eradicating the existing system and replacing it with something new, but rather further developing the existing system. We do this in many pilot projects and the unique thing about the KErn and the LfL is the fact that we work together with all the players in the food system, because only integrated solutions ultimately lead to success - from agriculture to processing, production, trade, consumers and, of course, science. Only these integrated solutions lead to the goal and these smaller pilot projects then show in examples: this is how it can work. This is how the food system of tomorrow can look better. The second axis we are pursuing here is, of course, communication. We live in a country of 84 million self-declared nutrition experts, most of whom have little idea of the food on their plates. This is also an international phenomenon. So, fighting all the myths and all the fake news about nutrition is not easy. We endeavour to separate the wheat from the chaff on internet portals, in apps and also at conferences and other communication channels, to make it clear in a factual but attractive way where the facts about nutrition are and where the important things are that we need to do.

Helen Regina: Interesting. Now a personal question about your international professional life: you have done a lot of international research, including being Scientific Director of the National Science Programme for High-Value Nutrition at the University of Auckland in New Zealand. How much does this global perspective help you in your work?

Dr Kussmann: A lot. I had already left Germany during my doctoral thesis and then, for various reasons, I did not return for 30 years. I have been back in my - still - home country for two years now. I have to say, I feel a bit like a stranger in my own country, but I still objectively consider Germany to be an extremely liveable country. A little anecdote: when my colleagues and friends abroad have asked me: "You are from Germany, tell me about it.", I usually replied: "Germany is a great country, just the Germans do not get it!" That is what I would call a summary. Germany is much better than its internal reputation. But how does that help me, I think it is like travelling: when

you work and live abroad - even more so than when you just travel there - it teaches, it educates, and above all it opens your eyes to other approaches, other ways of thinking, and of course other mentalities. Above all, it also opens our eyes to relevance. What is relevant for Germany is not necessarily relevant for New Zealand or Tierra del Fuego or Alaska. That is not necessarily the case. In the end, you can simply compare and relativise things better and that is a very healthy experience. This is so important to me because, even as a returnee, I realise that we Europeans and Germans still like to think we know what is good and right for the rest of the world. This is neither well-founded nor appropriate. That is why this experience is very healthy and especially related to New Zealand, where I was a professor at the university and at the same time head of this National Innovation Programme in Nutrition, which, as already mentioned, is the most important economic sector for New Zealand, which showed me a lot about how excellent basic research can be very well translated into really practicable solutions. For me, there is also no contradiction between: research is either sexy and has a high impact factor and you can publish it well or it is applied, and you have the money, but the journals are interested in it. It is not either or. Research is either sexy and has a high impact factor and you can publish it well or it is applied, and you have the money, but the journals are not interested in it. If the research is excellent and relevant, then it will also be applied and implemented.

Matthias Will: Dr Kussmann, we would like to finish with a practical tip for the 84 million nutrition experts in our country that you mentioned. If you had to give me a tip on what my ideal meal plan would look like tomorrow in terms of this concept that we have just discussed: What would my ideal meal plan look like?

Dr Kussmann: Another difficult question - I would start by asking you two questions, the first of which is: Is there anything you do not tolerate well? Then you should leave that out. Are you allergic to something? That should be left out. What are your preferences? It is very difficult to eat against pleasure.

Matthias Will: I like to eat meat.

Dr Kussmann: You like eating meat, okay. Then I would say one or two portions of meat a week is certainly enough, with a preference for white meat over red meat, so chicken is better than pork, which is better than beef, also in terms of sustainability. Maybe you should eat a bit more fish, preferably from aquaculture, then it is a bit more sustainable. It is getting difficult to remember all this. It is not that easy. I also recommend a balanced ratio of protein and carbohydrates, as is also given in the dietary advice. It is important to eat plenty of fruit and vegetables so that you get your vitamins and minerals. Perhaps the simplest answer is variety. Eat lots of different things throughout the week, which is always the best thing to do.

Matthias Will: Dr Kussmann, thank you very much for the very interesting interview and thank you for answering the one-million-dollar questions in particular. Thank you very much.

Dr Kussmann: With pleasure.