Upfield™

A Better Plant-Based Future

Policy Position

Table of Contents

A Better Plant-Based Future

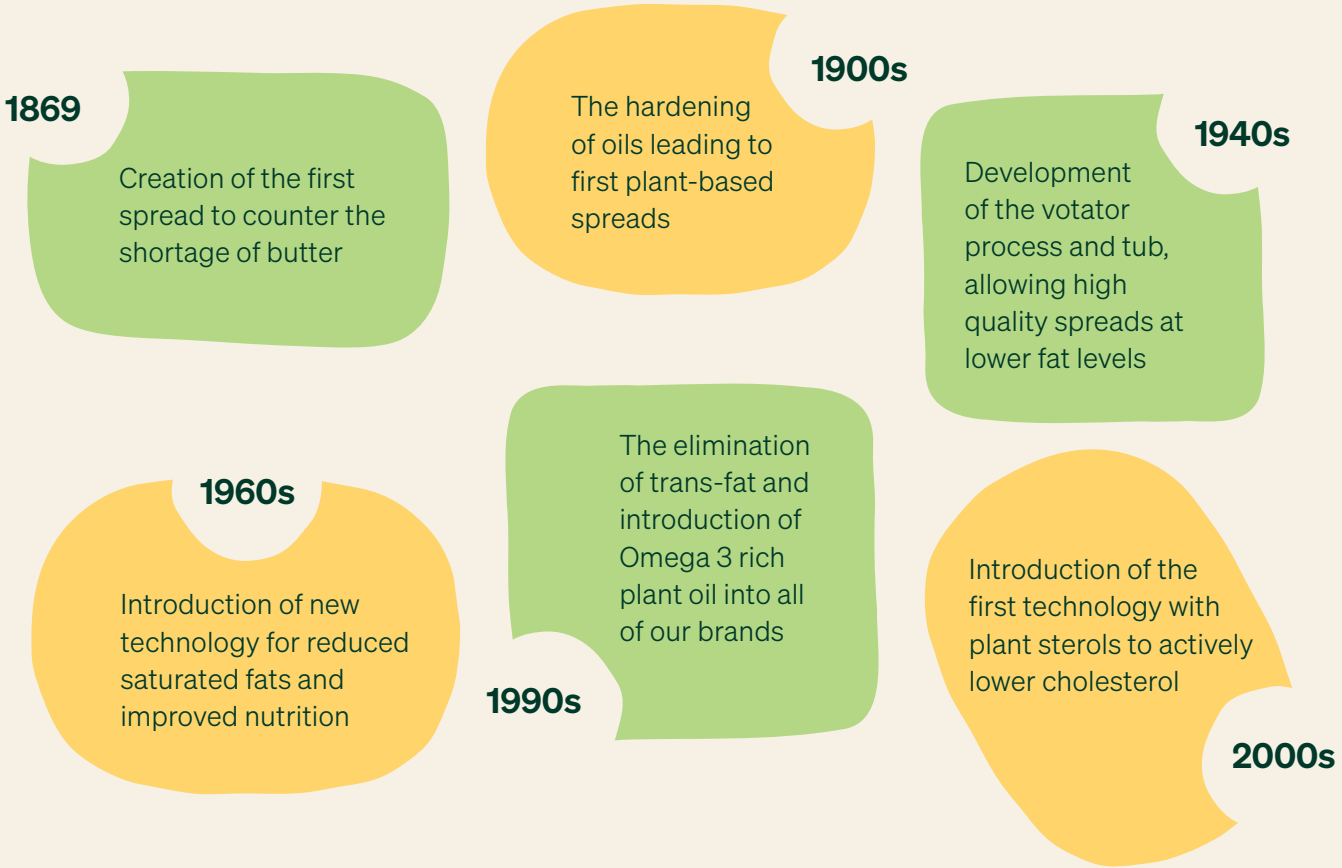
Policy Position

As the world's largest plant-based nutrition company, we are committed to making people healthier and happier with nutritious and delicious, natural, plant-based products that are good for you, our planet, and with packaging that's free from plastic.

Plants are fundamental to our future, as the world pivots today toward a more sustainable, natural, healthy and equitable food system for tomorrow. People around the world are embracing plant-based foods for health, sustainability and ethical reasons, and Upfield is driving this transformation by offering consumers a range of plant-based foods, raising awareness of the benefits of a plant-based diet, and of responsible, sustainable practices. We believe in A Better Plant-Based Future. Therefore, we have the responsibility to advocate for the transformation of what we eat, and to positively impact our planet, and the health of future generations. We do this because it's not only what consumers and stakeholders expect of us, but because it is the right thing to do.

Upfield's History

Our business has been at the forefront of the development of the category for the past 147 years, and has been credited with:



What is the Change We Want to See?

Today's world is awash with various competing dietary ideologies, from plant-based to vegetarian, flexitarian to vegan. The common theme behind all of these ideologies is a push to consume a higher proportion of plants within our diets.

> The dietary behaviours that should be promoted and supported by policy are trends towards increasing the proportion of plants in our diets, thus reducing the need for meat and dairy.

For the purposes of this paper, Upfield's position is that a healthy, sustainable diet is not necessarily a diet that contains only plants, but a diet that provides a high standard of nutritional value in a natural way, with minimum negative impacts on land use, GHG emissions, biodiversity, soil quality and water use. As we will explore later in this paper, a diet mostly derived from plants, sourced ethically and sustainably, tends to meet those criteria. Now is the time to take a holistic value chain approach to the foods we consume, their provenance, environmental impact and their nutritional content. To put it simply, we believe we should eat more plants.

Planetary Health and a Broader Definition of Sustainability

Sustainability covers more than just conservation. In this paper, we take a broad, integrated view on sustainability, encompassing:

Environmental Sustainability: What are the impacts of our food systems on GHG emissions and climate change, water use, land use, biodiversity and soil quality?

Economic Sustainability: Will our dietary choices protect the livelihoods of the agriculture and farming industries? Are the healthiest diets affordable for all?

Public Health: Are we able to minimise the risk of obesity, type 2 diabetes, cardiovascular disease and other non-communicable diseases through the foods we choose to eat?

Planetary Health: The Rockefeller Foundation-Lancet Commission on Planetary Health's view that "human health and human civilization depend on flourishing natural systems and the wise stewardship of those natural systems" serves to highlight the view that sustainability is a multifactorial, interconnected web of factors.[1]

Sustainability is an interconnected web of these components, none of which can be viewed in isolation. Environmental sustainability affects our ability to survive economically, and both of these components affect our ability to lead healthy lives. However, the interconnected nature of our public health, economic sustainability and environmental sustainability mean that we can adapt our food systems to find solutions for all of these concerns at once.

The Need for a Sustainable Food System

The Food and Agriculture Organization of the United Nations (FAO) states that the world's population will grow to 9.3 billion by 2050[2]. While many social scientists are deeply concerned by this trend, there are many agriculture experts who believe that this is perhaps an opportunity.

The seminal EAT-Lancet Commission on 'Healthy diets from sustainable food systems', published in January 2019, captures this tension by saying that "food systems have the potential to both nurture human health and support environment sustainability; however, they are currently threatening both. Providing a growing global population with healthy diets from sustainable food systems is an immediate challenge. Although global food production of calories has kept pace with population growth, more than 820 million people have insufficient food and many more consume low-quality diets that cause micronutrient deficiencies and contribute to a substantial rise in the incidence of diet-related obesity and diet-related non-communicable diseases, including coronary heart disease, stroke, and diabetes. Because much of the world's population is inadequately nourished and many environmental systems and processes are pushed beyond safe boundaries by food production, a global transformation of the food system is urgently needed."[3]

The Commission brought together a range of experts from various fields and diverse countries to develop global scientific targets based on the best evidence available for healthy diets and sustainable food production.

The guidance of the Commission — even in part, as laid out below — is a telling account of where we stand today, and what needs to be done to ensure a sustainable future for the world at large.

The report concludes:

- *Global food production is the largest pressure caused by humans on Earth, threatening local ecosystems and the stability of the Earth system.*
- *With food production causing major global environmental risks, sustainable food production needs to operate within the safe operating space for food systems at all scales on Earth. Therefore, sustainable food production for about 10 billion people should use no additional land, safeguard existing biodiversity, reduce consumptive water use and manage water responsibly, substantially reduce nitrogen and phosphorus pollution, produce zero carbon dioxide emissions, and cause no further increase in methane and nitrous oxide emissions.*
- *Transformation to sustainable food production by 2050 will require at least a 75% reduction of yield gaps, global redistribution of nitrogen and phosphorus fertilizer use, recycling of phosphorus, radical improvements in the efficiency of fertilizer and water use, rapid implementation of agricultural mitigation options to reduce greenhouse-gas emissions, adoption of land management practices that shift agriculture from a carbon source to sink, and a fundamental shift in production priorities.*[3]

However, the solutions to our global problems do not lie only in the better management of natural resources and enhancing the productivity of our agricultural practices alone. Our dietary behaviour also needs to change. The World Resources Institute's 2019 report on Creating a Sustainable Food Future looks at current predictions of the trajectory of demand for different food groups and concludes that:

- The global convergence toward Western-style diets (with increased consumption of calories, protein and animal-based foods including meat and dairy) will make it harder for the world to achieve several of the UN Sustainable Development Goals, including those related to hunger (SDG 2), good health and well-being (SDG 3), water management (SDG 6), climate change (SDG 13), and terrestrial ecosystems (SDG 15).
- As well as increasing the efficiency of our crops, streamlining food systems to produce lower GHG emissions and limiting land use, we need to look at demand-side solutions, including a shift to healthier and more sustainable diets. This requires demand for ruminant meat to increase only 32% above 2010 levels, equating to a 30% reduction in ruminant meat demand per capita.
- The average daily protein requirement for adults is around 50g per day, but the global average in 2010 was approximately 71g per day. The assumption that animal-based foods are necessary for essential amino acid intake is a myth, as these macronutrients can be provided by a diverse diet based entirely on plants (except for vitamin B12, which can be consumed via supplements and fortified foods).
- Currently, developed economies consume a disproportionate amount of animal-based foods, including meat and dairy foods. Today's U.S. per capita consumption of animal-based foods equates to 750 kcal, but FAO projections suggest that 6.1 billion people in poorer regions will still eat few animal-based foods in 2050. As such, equity requires that reductions in meat and dairy consumption are focused on high-consuming regions, rather than global reductions by everyone.
- Western-style diets are associated with an increased rate of non-communicable diseases. Particularly red meat consumption which has been linked with type 1 diabetes, cardiovascular disease and colorectal cancer.[4]

> Upfield believes that the time for addressing the need for a sustainable food system is now, which is why we are committed to raising awareness of the value, positive impact and benefits of eating more plants (and reducing meat and dairy intake) on planetary health, comprising public health, economic sustainability and environmental sustainability.

Improving Our Food System to Promote Responsible Use of Resources

The Rockefeller Foundation-Lancet Commission on Planetary Health draws on the connection between healthier diets and sustainable diets, stating:

> "Generally, diets with reduced animal product consumption, particularly from ruminants, are associated with reduced greenhouse gas emissions. More environmentally sustainable diets tend to be healthier than less sustainable diets."[1]

As such, Upfield supports a move to eat more plants, fewer animal-based foods (including meat and dairy), and thus contribute to a healthier, more environmentally sustainable world for all. By increasing the proportion of plants we consume, a healthier diet is more sustainable, and a more sustainable diet is healthier.

Overall, studies concur that unprocessed plant-based foods cause fewer adverse environmental effects per unit weight, per serving, or per unit of energy than animal-based foods across various environmental indicators.[8]

Animal-Based Foods and the Environment

The negative environmental impacts associated with animal-based foods are multifactorial. The process of rearing livestock for food products requires intensive use of natural resources, including:

Land: Other than the pastureland often required to care for livestock, animal feed also needs to be grown (usually in the form of soya or corn). According to 2012 data from the FAO, 27% of the kcal content global crop supply was devoted to animal feed, with only 66% being devoted to human food.[6]

Biodiversity and forests: Due to this high demand for crops to be used as animal feed, an increasing trajectory of demand for animal-based foods means that even more deforestation is taking place, resulting in a loss of biodiversity, which is essential to maintaining the fine balance of our ecosystems and to the carbon sinks provided by forests and rainforests.[7]

Water: Animal rearing is a water-intensive activity, mostly due to water footprint of growing crops for animal feed. The input of water to calories for animal-based foods is generally higher than for plant-based foods.[8]

GHG emissions: Present greenhouse-gas emissions of different food categories from life-cycle assessment studies and show that grains, fruits, and vegetables have the lowest environmental effects per serving, and meat from ruminants the highest effects per serving.[9]

One of the main reasons for the higher environmental impact of animal-based foods is the fact that they come via an indirect supply chain.

To feed a growing population with limited land and water resources, and with a limit on the amount of GHG emissions we can produce to comply with the Paris Climate Accord, it is most efficient to devote most agricultural land to growing crops for human consumption. The alternative is to input energy and resources into growing the requisite crops to rear livestock, then to be used for meat and dairy produce. This requires a far higher input of resources to create the same caloric value as growing plant crops directly for human consumption. Of course, all of this is dependent on the conditions in which livestock are reared. For example, small-scale farming methods are often less environmentally damaging than industrial farming, and can function as a component of a sustainable food system.

A 2019 study on the environmental effects of different dietary behaviours across the globe concluded that vegan diets were associated with the lowest $CO2_{eq}$ production per 2000 kcal consumed, as well as the lowest water usage. It found that, in general, consumption of animal-based foods (including meat and dairy) was associated with higher land use, water use and GHG emissions.[9]

Upfield believes that policy should support and incentivise a more sustainable demand system, whereby resource efficiency is maximised by reducing much of the meat and dairy consumption in Western-style diets. This reduction should be offset by a move to consume a greater proportion of essential nutrients from plants. Following this model, shorter supply chains and more effective use of resources will help to mitigate negative environmental impacts.

Economic Wellbeing and Sustainable Food Systems

Upfield envisions a world in which we use resources efficiently, cut GHG emissions and decrease risk of non-communicable diseases by increasing the proportion of plants in our diets, and reducing meat and dairy intake per capita.

However, we are aware that this change would be economically challenging for two main reasons:

1. A shift to a more plant-based food system could negatively impact the livelihoods of agricultural workers operating in the meat and dairy sectors; and
2. Current subsidies and financial incentives make it unaffordable for many people to maintain a nutritious, plant-based diet.

Due to the nature of plant-based foods, they can often be produced at a lower cost than meat and dairy products — this is because they are most often grown directly for human consumption. Of course, production cost depends on local climate, growing conditions and transportation supply chains.

However, this lower production cost of healthy, sustainable plant-based foods is counterbalanced by a widespread trend of subsidies for the meat and dairy industries, particularly in markets like the UK and the US.[10]

A Greenpeace report released in February 2019 found that between €28.5bn-€32.6bn of the European Union's Common Agricultural Policy subsidy budget (equating to 18-20%) was spent on supporting the livestock sector.[11]

In order to create a level playing field by which sustainable food systems can thrive, and consumers can afford nutritious, sustainable diets, financing systems for the food sector needs to shift to deprioritise meat and dairy, and to promote plant foods.

However, this should be done in such a way that workers in the meat and dairy sectors are not penalised. Upfield proposes updating our food system while maintaining economic wellbeing via a just transition. This would readdress subsidies, provide a reasonable time period to shift these subsidies, and support workers via financial incentives to shift their focus onto the plant-based food production sector.

While an updated food system requires a reallocation of government subsidies, there is also a role for corporations to play. Food production and manufacturing companies can ensure their workers are economically protected by implementing measures like a requirement for a living wage throughout their supply chains.

With all of these factors at play, the economic impacts of a transition to a healthy, sustainable, plant-based food system can be minimised.

Plant-Based Foods: The Healthier Choice

Public health is key component of planetary health, and it has been shown that plant-based diets are connected with decreased risk of non-communicable diseases (NCDs). This is because plant-based diets tend to be richer in fibre, good fats, vitamins and minerals.

The report of a Joint WHO/FAO Expert Consultation on 'Diet, Nutrition And The Prevention Of Chronic Diseases' observes that:

> There is now greater understanding of the role of diet in preventing and controlling morbidity and premature mortality resulting from NCDs.

Our modern world has brought on rapid changes in diets and lifestyles that are having a significant impact on the health and nutrition of populations. The combination of inappropriate diet patterns (consumption of energy dense diets high in fat, particularly saturated fats, and low in unrefined carbohydrates) and decreased physical activity/ sedentary lifestyles are resulting in diet-related chronic diseases.

The report concludes that "because of these changes in dietary and lifestyle patterns, chronic NCDs — including obesity, diabetes mellitus, cardiovascular disease (CVD), hypertension and stroke, and some types of cancer — are becoming increasingly significant causes of disability and premature death in both developing and newly developed countries, placing additional burdens on already overtaxed national health budgets."[12]

The NCD Alliance, which unites 2,000 civil society organisations in more than 170 countries and is dedicated to improving NCD prevention and control worldwide concurs with this view. They share that, "what we eat, and our nutritional status can affect cardiovascular diseases, some types of cancer, and diabetes. Foods, diet and nutritional status, including overweight and obesity, are also associated with elevated blood pressure and blood cholesterol, and resistance to the action of insulin. These conditions are not only risk factors for NCDs, but major causes of illness themselves. Both undernutrition and overweight and obesity place individuals at risk of developing NCDs and it is critical to address malnutrition in all its forms in an integrated manner along the life-course approach."[13]

The direct connection between changing diets and an increased rate of NCDs leads us to consider which components of our diets are responsible for an increased rate of NCDs, and what can be done to reduce this rate.

Key Facts about Diet-Related NCDs from the WHO[14]

- Non-communicable diseases (NCDs) kill 41 million people each year, equivalent to 71% of all deaths globally.
- Each year, 15 million people die from an NCD between the ages of 30 and 69 years; over 85% of these "premature" deaths occur in low- and middle-income countries.
- Cardiovascular diseases account for most NCD deaths, or 17.9 million people annually, followed by cancers (9.0 million), respiratory diseases (3.9million), and diabetes (1.6 million).
- These 4 groups of diseases account for over 80% of all premature NCD deaths.
- Tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets all increase the risk of dying from an NCD.
- Detection, screening and treatment of NCDs, as well as palliative care, are key components of the response to NCDs.

Looking back over the last 50 years, diets have developed to include a far higher intake of animal-based foods than they used to. Indeed, according to FAO data aggregated by the World Resources Institute in their report on Creating a Sustainable Food Future, by 2050 we will consume 40% of daily calories from animal-based products (from a baseline of 36% in 2010).[4]

Looking back to various “territorial diets,” associated with particular cultures (for example, culturally traditional diets like the Mediterranean diet), we find that plants played a more significant role in diets than they do now.[15] A return to plant-based diets is linked not only to a decreased risk of NCDs but also to our cultural heritage. Diets mostly comprising of plant ingredients are not a radical departure from what our forebears ate. However, the challenge today is to eat more plants within a modern food system that is not focused on plants, and to do this while also taking into account the other expectations of a healthy life (e.g. sufficient physical activity).

Today, chronic degenerative diseases represent the most important public health challenge to populations of the industrialised, affluent nations. For economic, traditional, religious and cultural reasons, dietary patterns in the developing world tend to be largely plant-based, which correlates to a lower prevalence of chronic diseases amongst rural peasantry and tribal groups.[16]

The study concludes that “plant-based diets, based on traditional practices among rural agricultural societies, but tailored to eliminate their nutritional, microbiological and toxicological liabilities and channeled through industrial processing, seems to be the composite scenario to which the forces point. The principles are the same for populations of what are currently industrialised and emerging societies. The developing countries have a head start that they have not lost touch with their traditional rural cuisine. The developed nations have the advantages of being able to mobilise advanced food science and technology to resolve the liabilities of plant-based regimes.”[16]

Aside from the propensity for culturally traditional diets to contain a higher proportion of plant ingredients, we can look to modern lifestyle choices for further data on the health impact of plant-based foods.

One study found that vegetarians "tend to have better cardiovascular outcomes compared with those consuming omnivorous diets, including a reduced risk of morbidity and mortality from ischemic heart disease; reduced incidence of cancers, particularly among vegans; decreased risk of developing Type 2 Diabetes; decreased risk of developing metabolic syndrome (MetS); and lower all-cause mortality. These positive health outcomes likely relate to the lower body mass index (BMI); lower glucose levels; lower systolic and diastolic blood pressure; lower total and low-density lipoprotein cholesterol; lower triglycerides; lower levels of uric acid and high-sensitivity C-reactive protein; and higher levels of plasma ascorbic acid observed among vegetarians."[18]

Further, the Adventist Cohort Studies have helped to provide extensive longitudinal data on the health impacts of plant-based diets, as compared to diets containing more animal-based foods. These studies found that vegetarians and vegans were less likely to suffer from type 2 diabetes, gastrointestinal cancers and cardiovascular disease than those with more animal-based foods in their diets. The trend was that these conditions were rarer in vegans than in lacto-ovo-vegetarians.[19] Essentially, a higher proportion of plants in our diets will help to reduce our risk of a wide range of NCDs.

Although intervention studies based on vegan diets are less common, one experimental study resulted in a reduction in C-reactive protein (CRP), a marker of inflammation, over the course of a 3-week vegan dietary intervention.[20] Another 4-week vegan dietary intervention significantly reduced total medication use among participants due to reduced systolic and diastolic blood pressure and lipids.[18]

Culturally Traditional Plant-Based Diets

Though plant-based diets appear to be the rage amongst health and environment conscious consumers the world over today, they are in no way a new phenomenon. In fact, several culturally traditional diets have been predominantly plant-based for centuries:

- The Mediterranean diet features "high consumption of grains andcereals (traditionally mainly whole grains), legumes, fruit, nuts, vegetables and fish; daily use of olive oil as the main fat, with the consequent high monounsaturated/ saturated fat ratio."
- The traditional, rural Chinese diet is low in fat and high in dietary fiber and plant material.
- Parts of Africa — Ethiopia, for instance — which have a large orthodox Christian population, have also a well-established set of religious rituals that promote vegan or vegetarian cuisine throughout the year.[17]
- In large parts of the Nordic region, traditional diets have often been rich in local sustainable plant-based produce and fish.

Plant-Based Foods and Phytonutrients

Both the medical and health science communities agree that plant-based foods are the richest source of phytonutrients, which are naturally occurring protective substances that are found in foods of plant origin and in plant-based diets. There are a number of well-known phytonutrients that have a range of potential benefits, including anti-inflammatory, detoxifying, anti-oxidant and hormone-balancing compounds.

Phytonutrients are often grouped into the following categories:

Polyphenols
Found in grapes, berries, broccoli, kale, olives and several other fruits and vegetables, may help prevent heart disease and cancer, and lower blood pressure.[21]

Carotenoids
Found in tomatoes, yams, kale, spinach, watermelon, cantaloupe, and other fruits and vegetables, are thought to provide health benefits in decreasing the risk of disease, particularly certain cancers and eye disease.[22]

In addition to phytonutrients, plant-based diets promote the consumption of beneficial "good" fats, which according to experts from the Harvard T.H. Chan School of Public Health include unsaturated fats, like plant oils (olive, canola, sunflower, soy and corn), as well as nut, seed and fish oils. "Bad" fats are those that are either animal-based and high in saturated fats (e.g. butter) or contain trans-fat (partially hydrogenated oil or inherent sources).[23]

The WHO Healthy Diet Fact Sheet advises that:

> "Unsaturated fats... are preferable to saturated fats; industrial trans fats are not part of a healthy diet."[24]

Further, the WHO recommends reducing fat intake from all sources, particularly industrial ones. Switching to a plant-based diet reduces exposure to animal sources (like dairy butter), which contain even higher levels of trans fats than industrial sources.[25] This advice is echoed by 89% of countries with dietary food guidelines who recommend limiting saturated fat intake, and 29% indicating a preference for unsaturated over saturated fats.[26]

Further, preliminary results from an analysis of two large studies found that a diet that is rich in plant-based monounsaturated fats is linked to a lower risk of death from heart disease and other causes. In contrast, if the monounsaturated fats come from animal sources, the link is to a higher risk of death from heart disease and other causes.[27]

One final factor is the importance of food quality to overall nutrition and health. As well as saturated fats, our daily intake of salt, sugar and ultra-processed foods are linked to increased risk of obesity, type 2 diabetes and cardiovascular disease.

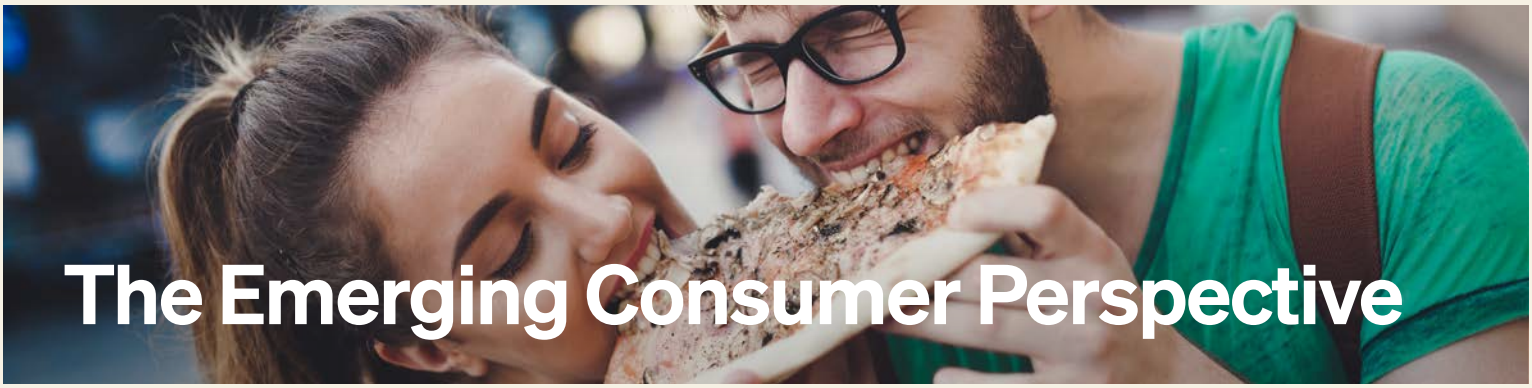
Given the expert, scientific and evidence-based support of the positive health benefits of plant-based diets, and impacts they can have on disease prevention, including NCDs, Upfield seeks to be a vocal advocate for a diet containing a higher proportion of simple and natural plant-based foods by increasing awareness, engaging in meaningful dialogue and highlighting meaningful steps individuals can take to make step-wise change toward better health.

Phytosterols Lower Cholesterol Levels

Phytosterols are naturally-occurring molecules with structure and function similar to human cholesterol. They are found primarily in pine trees, as well as in vegetables such as legumes (beans, peas) and often sources from pine. They are believed to slow down absorption of cholesterol for better human health. The cholesterol-lowering effects of phytosterols — plant-based sterols that inhibit absorption of both endogenous and exogenous cholesterol and lower serum total cholesterol levels — has been widely studied since the 1950s and their efficacy well documented (Lees et al. 1977).

Though the substantive impact of the phytosterols naturally consumed through our diets have often been a subject of discussion, recent advances in food-technology have made it possible to combine sterols with a variety of food products. Orekhov and Ivanova go on to share, "a number of products enriched in plant sterols/stanols, such as yogurts, milk, spreads, and margarines, can be found on the market, and their beneficial effects have been assessed in clinical studies (Gylling et al., 2014). Phytosterols reduce the cholesterol absorption and lower the plasma LDL, as confirmed by a number of clinical studies (Katan et al., 2003). Both total and LDL cholesterol levels in plasma were inversely related to the plant sterol intake..."

This has led to the wide-spread recognition of phytosterols/stanols as cholesterol-lowering agents for primary and secondary prevention of cardiovascular diseases. Today, both the American Heart Association and the European Current Dietary Guidelines recommend the consumption of phytosterols as a therapeutic option for treatment of patients with elevated blood cholesterol (Lichtenstein et al., 2006).



The Emerging Consumer Perspective

According to the World Resources Institute's working paper, "Shifting Diets for a Sustainable Food Future" they highlight socio-economic trends that characterise today's environment.

"The global population is projected to grow to nearly 10 billion people by 2050, with two-thirds of those people projected to live in cities. In addition, at least 3 billion people are expected to join the global middle class by 2030. As nations urbanize and citizens become wealthier, people generally increase their calorie intake and the share of resource-intensive foods — such as meats and dairy — in their diets. At the same time, technological advances, business and economic changes, and government policies are transforming entire food chains, from farm to fork. Multinational businesses are increasingly influencing what is grown and what people eat. Together, these trends are driving a convergence toward Western-style diets, which are high in calories, protein, and animal-based foods. Although some of this shift reflects health and welfare gains for many people, the scale of this convergence in diets will make it harder for the world to achieve several of the United Nations Sustainable Development Goals, including those on hunger, healthy lives, water management, climate change, and terrestrial ecosystems."[28]

One possible arm of the multifaceted solution, as published by the World Resources Institute, is to advocate for three interconnected dietary shifts in populations who consume calorie-dense, protein, and animal-based foods:[28]

Shift 1: Reduce Overconsumption of Calories
Unnecessary calorie consumption results in unnecessary use of inputs (e.g., land, water, energy) and unnecessary environmental impacts related to the production of the excess calories and would help reduce the impacts of obesity and could result in significant potential savings in healthcare costs.

Shift 2: Reduce Overconsumption of Protein by Reducing Consumption of Animal-Based Foods This shift aims to reduce overconsumption of protein and energy dense foods by reducing consumption of animal-based products and increasing the proportion of plant-based protein in diets.

Shift 3: Shift from Beef Specifically
The third diet shift focuses on reducing beef consumption or shifting consumption to other animal- and plant-based foods. It targets countries and populations that are high consumers of beef, relative to the world average over the past 50 years or are projected to be high consumers by 2050.

Against this thought-provoking background, we see the growing preference and movement toward plant-based nutrition amongst consumers at large. For younger generations, it is more than just a fad, but a fundamental shift. This is evident in many ways:

1. An embracing of and return to cultural foods that have always been of crucial importance to many people around the world, that strike the right balance between food groups and protein sources, like the traditional Mediterranean diet and others.
2. The growing numbers of people, especially younger generations — both vegan and otherwise — who are consciously choosing plant-based foods because of both health and environmental reasons.
3. The increasing availability and growing range of innovative products that provide consumers with choice — a cyclical result of the increased demand for such products.

Our Policy Recommendations

These winds of change, we believe, are only early indications of the significant transformation that we must recognise and accept if we are to build a sustainable future, a healthier future, for ourselves and for the world at large. As the world's leading plant-based nutrition company, at Upfield, this is a future we firmly believe in. And, one that we are committed to playing an increasingly meaningful role in by bringing the finest and healthiest plant-based food options to a better food system and so to help achieve a better planet.

> We believe that in this case, health and sustainability work hand in hand.

We outline our policy recommendations that you can expect us to advocate for with key stakeholders that have the same passion and care as ourselves, with the goal to help deliver A Better Plant-Based Future:

1 **Encourage the consumption of more plants (and a more diverse range of plants), as a proportion of the overall diet,** whether the driver is better health and/or sustainability should be encouraged and supported at pace within the healthcare, agriculture and regulatory systems to support citizens whether their drivers are:

a. **Preventing chronic health conditions** and contributing to the overall health and wellness index of citizens (while ensuring children's nutritional needs are always met); or

b. **Maximising the sustainability impact** on the planet, as compared with animal derived products (meat and dairy).

2 **Increase incentives and policy initiatives to drive a rapid transition to a sustainable food and farming system** for of both crops and livestock that nourishes the health of both people and the planet, enabling systemic responsible sourcing. Promote science-led and evidence based sustainable agricultural practices in line with both planetary boundary and nutritional models — encourage the fastest routes to net zero carbon, ensuring the protection and restoration of ecosystems, biodiversity, soil and water resources, alongside health and development outcomes.

3 **Call on governments and all stakeholders to evolve incentives and food system funding to improve equitable agricultural funding including ensuring farmers have a living wage, support small holder and medium sized farming to enable local diversity** and enable the training of farmers who wish to transition to different plant-based agricultural systems, to ensure all farmers have the opportunity to meet consumer demands.

4 **Reform regulations to ensure complete and truthful labeling** so consumers can clearly understand the contents of all the products they are consuming, equally. Existing regulatory food systems are largely based around a "western diet" framework diets or diets with a high proportion of animal-based foods. For example:

a. Many regulatory regimes recognise all plant oils as vegetable oils when they should be known by their main ingredient — seeds, nuts, fruits, legumes etc.

b. Many animal derived foods are exempted from ingredient labeling on the grounds that they are 'single-ingredient foods', while use of artificial colours and other additives is permitted. For example: EU provides exemption for single-ingredient foods. US butter regs permit use of colours, acidity regulators and texture agents without declaration in ingredient list. Butter standards allow addition of water to standardise composition, without declaring added water as an ingredient.

c. Many animal-derived foods with significant nutritional properties are exempted from nutritional labeling requirements, or important nutrients are omitted, in some cases even forbidden. For example, EU regulations prevent declaration of trans fatty acid content and exempt animal sources from limits on max levels.

5 **Encourage partnerships, investments and innovations** in plant-based foods based on modern technology, responsible sourcing, culturally traditional foods, agricultural practices and natural processes that seek healthier and more sustainable food systems that do not sacrifice one for the other.

6 **Modernise standards of identity to include plant derived foods** so that plant-based foods or food versions entirely made of plants are clearly defined in food regulation terms in a clear and unambiguous way. Ensuring plant derived foods are not treated as inferior alternatives and substitutes but rather as plant foods. Removing barriers to consumer communications and promoting plant-based foods. These standards should include equity principles so all information to consumers are transparent, factual and unambiguous — the regulatory system should be reset in this regard. We believe that terms such as butter, meat, milk, cream, etc. refer to the form and format and that plant-derived as well as animal derived foods can use these terms in a truthful way.

7 **Seek collaborations and partnership between private sector, civil society, Governments and academic institutions** to conduct further evidence-based research into plant-based diets and food systems, support consumer education programs to enable consumers to eat more plant derived foods, support vulnerable groups and societies to ensure they have an opportunity for adequate nutrition and support traditional plant-based foods. To enact such changes in the food system, these collaborations are essential.

8 **Seek collaborations and partnership between key stakeholders to enhance consumer education:** enable citizens to eat more plants and a diverse array of plants that suit their culturally traditional, territorial diets and enable adequate access to a sustainable food system. Ensure consumers receive accurate and transparent information about nutrition and responsible sourcing so they can make informed choices for themselves and their families about the foods they eat. Support initiatives that help vulnerable communities and consumers learn to prepare, bake and cooking a diverse array of plants to support a healthy and sustainable diet — including the special attention needed to the dietary needs of children.

References

[1] Whitmee, Sarah; et al. *Safeguarding Human Health in the Anthropocene Epoch: Report of The Rockefeller Foundation–Lancet Commission on Planetary Health*. Lancet, 2015.

[2] Alexandratos, Nikos and Bruinsma, Jelle. *World Agriculture towards 2030/2050: The 2012 Revision*. FAO Agricultural Development Economics Division, 2012.

[3] Willett, Walter, et al. *Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems*. Lancet, 2019.

[4] Searchinger, Timothy, et al. *Creating a Sustainable Food Future: A Menu of Solutions to Feed Nearly 10 Billion People by 2050*. World Resources Institute, 2019.

[5] H. Westhoek et al., The Protein Puzzle. T*he Consumption and Production of Meat, Dairy and Fish in the European Union*. Netherlands Environmental Assessment Agency, 2011.

[6] Reynolds, C.J.; Buckley, J.D.; Weinstein, P. and Boland, J. *Are the dietary guidelines for meat, fat, fruit and vegetable consumption appropriate for environmental sustainability? A review of the literature*. Nutrients, 2014.

[7] Clune S, Crossin E, Verghese K. *Systematic review of greenhouse gas emissions for different fresh food categories*. J Clean Prod, 2017.

[8] Tilman D, Clark M. *Global diets link environmental sustainability and human health*. Nature, 2014.

[9] Chai, Bingli Clark; van der Voort, Johannes Reidar; Grofelnik, Kristina; Eliasdottir, Helga Gudny; Klöss, Ines and Perez-Cueto, Federico JA. *Which Diet Has the Least Environmental Impact on Our Planet? A Systematic Review of Vegan, Vegetarian and Omnivorous Diets*. Sustainability, 2019.

[10] Wellesley, Laura; Happer, Catherine and Froggatt, Antony. *Changing Climate, Changing Diets: Pathways to Lower Meat Consumption*. Chatham House, 2015.

[11] Greenpeace. *Feeding the Problem: The Dangerous Intensification of Animal Farming in Europe*. Greenpeace, 2019. https://storage.googleapis.com/planet4-eu-unit-stateless/2019/02/83254ee1-190212-feeding-the-problem-dangerous-intensification-of-animal-farming-in-europe.pdf.

[12] WHO/FAO Expert Consultation. *Diet, Nutrition and the Prevention of Chronic Diseases*. World Health Organization, 2002. https://www.who.int/dietphysicalactivity/publications/trs916/download/en/.

[13] NCD Alliance. *Healthy Diets*. NCD Alliance, 2019. https://ncdalliance.org/why-ncds/ncd-prevention/healthy-diets.

[14] World Health Organization. *Noncommunicable diseases: Key Facts*. World Health Organization Fact Sheet, 2018. https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases.

[15] Zampelas, Antonis and Magriplis, Emmanuella. *Conference on 'Optimal diet and lifestyle strategies for the management of cardio-metabolic risk': Dietary patterns and risk of cardiovascular diseases: a review of the evidence*. Proceedings of the Nutrition Society, 2019.

[16] Solomons, Noel W. *Plant-Based Diets Are Traditional in Developing Countries: 21st Century Challenges for Better Nutrition and Health*. Asia Pacific J Clin Nutr, 2000.

[17] Seleshe, Semeneh, et al. *Meat Consumption Culture in Ethiopia*. Korean J Food Sci Animal Resources, 2014.

[18] Lynch, Heidi, et al. *Plant-Based Diets: Considerations for Environmental Impact, Protein Quality, and Exercise Performance*. Nutrients, 2018.

[19] Sabaté, Joan and Lee, Lap Tai. *Beyond Meatless, the Health Effects of Vegan Diets: Findings from the Adventist Cohorts*. Nutrients, 2014.

[20] Sutliffe, JT, et al. *C-Reactive Protein Response to a Vegan Lifestyle Intervention*. Complement Ther Med, 2015.

[21] Ware, Megan. *Why Are Polyphenols Good for You?* Medical News Today, 2017. www.medicalnewstoday.com/articles/319728.php.

[22] Johnson, EJ. *The Role of Carotenoids in Human Health*. Nutr Clin Care, 2005.

[23] Harvard TC Chan School of Public Health. *Fats and Cholesterol*. The Nutrition Source, Harvard T.H. Chan School of Public Health, 2019.

[24] World Health Organization. *Healthy Diet. Fact Sheet No. 394*. World Health Organization, 2015. https://www.who.int/nutrition/publications/nutrientrequirements/healthydiet_factsheet394.pdf.

[25] Wanders, AJ, et al. *Trans Fat Intake and Its Dietary Sources in General Populations Worldwide: A Systematic Review*. Nutrients, 2017.

[26] Herforth, Anna, et al. *A Global Review of Food-Based Dietary Guidelines*. American Society for Nutrition, 2019.

[27] Guash, Marta, et al. *Associations of Monounsaturated Fatty Acids From Plant and Animal Sources With Total and Cardiovascular Mortality Risk*. Circulation, 2018.

[28] Ranganathan, Janet; et al. *Shifting Diets for a Sustainable Food Future*. World Resources Institute, 2016.

Upfield™