HOW A UNIVERSALLY RECOGNISED PLANT-BASED STANDARD DELIVERS CONSUMER AND BRAND CONFIDENCE

Introduction

The popularity of plant-based food has been gathering momentum. This reflects a growing sense of unease amongst some consumers over the impact that modern industrial farming methods have on the environment and animal welfare practices, as well as the impact of a predominately meat-based diet on health.

The recognition that the global food system is responsible for more than a quarter of all greenhouse gas emissions, and therefore is a major driver of climate change, has filtered through to the public consciousness and this is influencing how some make choices about food.

A growing number of consumers are considering vegetarianism, veganism or a flexitarian approach because of the purported health benefits a well-balanced plant-based diet offers. The Oxford Martin Programme on the Future of Food assessed the health and environmental impact of plant-based diets and found that adopting vegetarian diets would prevent 7.3 million deaths per year globally and adopting vegan diets would avoid 8.1 million deaths. It would also cut food-related greenhouse gas emissions by 63% with vegetarian diets and by 70% with vegan diets (1).

As more and more people seek to maintain a lifestyle that they perceive to be beneficial for the planet and their health, vegetarianism, veganism or experimentation with either is, for many, an appealing choice.

The commercial opportunities created by the rise of vegetarianism, veganism and predominantly plant-based diets are confirmed by Mintel. Their research found that sales of meat-free foods in the UK alone have increased 40% from £582 million in 2014 to an estimated £816 million in 2019 and sales are expected to reach £1.1 billion by 2024 (2). Nielsen research points to the declining sales of red meat in 2019. This category saw a dip in sales of £185million whilst sales of plant-based alternatives rose by 18%, making it the fastest growing category last year (3). There is no doubt that demand for plant-based alternatives is on the rise.

The UN estimates that the global population will reach 9.8 billion by 2050 (4) and this raises many questions about our

collective ability to feed the population sustainably from the diminishing resources we have. EAT, a global, non-profit foundation recently teamed up with the Lancet to convene 37 scientists from 16 countries to develop global scientific targets for healthy diets and sustainable food production. They presented an integrated global framework with quantitative scientific targets that demonstrate it is possible to feed the world's population sustainably. They claim;

"Food will be a defining issue of the 21st century. Unlocking its potential will catalyse the achievement of both the SDGs [United Nations Sustainable Development Goals] and Paris Agreement. An unprecedented opportunity exists to develop food systems as a common thread between many international, national, and business policy frameworks aiming for improved human health and environmental sustainability. Establishing clear, scientific targets to guide food system transformation is an important step in realizing this opportunity" (5).

This report investigates key factors driving the demand for sustainable plant-based food production and how manufacturers are dealing with the challenges placed upon them. Specifically, it addresses the need for a universal plant-based benchmark that guarantees consumers can make food choices with confidence and retailers can make informed choices about their supply chain.

It investigates the implications of the rise of the conscientious consumer who seeks to protect the environment, their long-term health and support animal welfare. Whilst also investigating the current state of play for food labelling regulations, the need for product integrity and protecting consumers with allergenic concerns, and existing related standards. It also details the steps BRCGS are taking to ensure that the choice to embrace a plant-based diet is made simple for all those involved.

It presents an overview of evidence from a range of sources and considers the challenges involved in ensuring the role that standards play in helping both brand owners and consumers make informed choices regarding plant-based foods.

Consumers want to make informed choices

The need for universally recognised plant-based standards is driven by a growing desire among some consumers to protect the environment and animal welfare and eat a diet that does not have a negative impact on their health.

Environmental drivers

The environmental consequences of the world's reliance on food produced at an industrial scale is moving up consumers' agenda. The Millennium Ecosystem Assessment estimates that between 1961 and 2003 global food production more

than doubled. During that time production of cereals increased almost two and a half times, beef and sheep production increased by 40%, pork production by nearly 60%, and poultry production doubled (6). Although beef, veal and mutton production is set to stabilise, Friends of the Earth predict a dramatic and continuous rise in poultry and pig production (7).

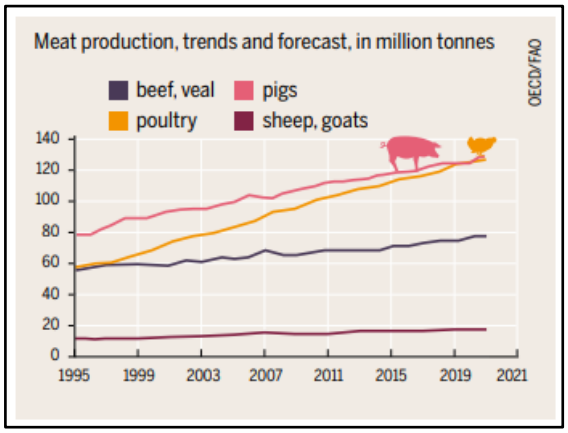

Figure 1: 'Meat Atlas. Facts and Figures about the animals we eat', Friends of the Earth, January 2014 (7)

This growth in food production comes at an environmental cost because 95% of the world's food is produced from a relatively thin layer of topsoil. It is this topsoil that is threatened by the sheer scale of modern industrial farming and nearly half of the most productive soil has disappeared in the last 150 years, threatening crop yields and contributing to nutrient pollution, dead zones and erosion (8).

Deforestation continues to pose a threat despite attempts to curb its environmental impact. In 2006 the Amazon Soy Moratorium, an industry-led voluntary agreement, ensured that traders did not purchase soya grown in the Amazon on land deforested after 2006 and was credited with drastically decreasing rates of deforestation on virgin forests. However, deforestation has been on the rise since 2014 (see Figure 2) and soy cultivation continues to be a major contributor to deforestation in the Amazon basin. 80% of soya bean production in the region is used to provide high protein animal feed.

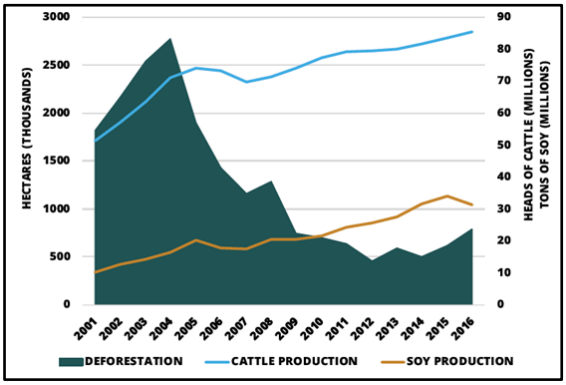

Figure 2: Deforestation and Soy and Cattle Production in Brazil 2001-2016, Mongabay Series: Global Forests May 2019 (9)

The extensive use of fertilizer and monocultures in modern farming has been attributed to environmental degradation and loss of biodiversity and has triggered the need for lab cultured alternative meat products and plant-based products that make up so much of the alternative meat market. Bruce Friedrich of the Good Food Institute explains;

"Our current method of growing crops to feed to animals so we can eat animals is

shockingly inefficient... by 2050, [almost] all meat will be plant-based or cultivated." (10)

As an industry, agriculture is responsible for 24% of all global carbon emissions and, as middle classes flourish in once emerging economies, the demand for meat is set to rise, (see Figure 3), because socio-economic factors such as population growth and urbanisation lead to increased meat consumption. The Food & Agriculture Organisation of the UN anticipate that, in 2030, developing countries will consume 26.5 kg more per capita of meat than they did in 1964-1966.

Globally, food trends are pulling in two opposing directions – towards plant-based in the West due to growing concerns about environmental impact and health; and towards meat in the developing world, driven by economic growth and middle-class expansion.

	1964/66	1974/76	1984/86	1994/96	1997/99	2015	2030
	kg per capita, carcass weight equivalent						
World	**24.2**	**27.4**	**30.7**	**34.6**	**36.4**	**41.3**	**45.3**
Developing countries	10.2	11.4	15.5	22.7	25.5	31.6	36.7
excl. China	11.0	12.1	14.5	17.5	18.2	22.7	28.0
excl. China and Brazil	10.1	11.0	13.1	14.9	15.5	19.8	25.1
Sub-Saharan Africa	9.9	9.6	10.2	9.3	9.4	10.9	13.4
Near East/North Africa	11.9	13.8	20.4	19.7	21.2	28.6	35.0
Latin America and the Caribbean	31.7	35.6	39.7	50.1	53.8	65.3	76.6
excl. Brazil	34.1	37.5	39.6	42.4	45.4	56.4	67.7
South Asia	3.9	3.9	4.4	5.4	5.3	7.6	11.7
East Asia	8.7	10.0	16.9	31.7	37.7	50.0	58.5
excl. China	9.4	10.9	14.7	21.9	22.7	31.0	40.9
Industrial countries	61.5	73.5	80.7	86.2	88.2	95.7	100.1
Transition countries	42.5	60.0	65.8	50.5	46.2	53.8	60.7
Memo item							
World excl. China	28.5	32.6	34.3	34.1	34.2	36.9	40.3
World excl. China and transition countries	26.5	29.0	30.6	32.4	33.0	35.6	39.1

Figure 3: Food consumption of meat, 'Work Agriculture: towards 2015/2030 An FAO Perspective', Food & Agriculture Organisation of the UN 2003 (11)

Many Western consumers have woken up to this and seek to tailor their behaviour to reduce the negative environmental impact of their consumption habits. A move to a more plant-based diet is seen as an intrinsic part of this commitment to living a more sustainable lifestyle.

Animal welfare drivers

Food manufacturers are responding to demand, not only to keep their customers happy but to secure their long-term future. For example, Danone's regenerative agriculture initiatives seek to embed sustainable farming practices along the supply chain by promoting animal welfare and educating a new generation of farmers in soil preservation techniques (12).

Animal welfare is also driving the need to reassess how we produce and process the food we eat. According to research firm Packaged Facts, 58% of U.S. consumers are more concerned about animal welfare, specifically as it relates to the food supply chain, than they were just a few years ago. Research Director, David Sprinkle, cited the scale of the concern,

"Consumer concern over animal welfare issues has reached critical mass in the meat and poultry industries, creating a new generation of challenges and opportunities."

In the report, 'Animal Welfare: Issues and Opportunities in the Meat, Poultry, and Egg Markets', Package Facts draws attention to

three imminent consequences for food producers (13). They are:

- The need to market animal-welfare related practices, an essential competitive action
- The requirement to leverage links between animal welfare and product healthfulness & sustainability
- The need to cater to the flexitarian trend, a diet that is centred about plant-based foods with the occasional inclusion of meat

The ethical treatment of animals is a key challenge for the future of livestock farming. Compassion in World Farming, an NGO focused on ending factory farming, recommends that consumption of livestock products should be reduced 50% by 2050 in order to restore biodiversity, soil and water quality to meet Paris climate targets (14). These considerations are becoming more widely recognised and contributing to the growth of the plant-based food market.

Health and nutrition drivers

However, it is not just animal welfare and environmental concerns that are driving the expanding market for plant-based foods. Many people are also worried about the impact that a predominantly animal based diet has on their health.

The World Health Organisation estimates that global obesity, a preventable disease, has tripled since 1975 and 41 million children under the age of 5 were overweight or obese in 2016 (15). The incidence of obesity-related disorders, such as diabetes and cardiovascular diseases, has increased markedly in the last few years. According to the Organisation for Economic Co-operation and Development, obesity is highly prevalent particularly in the U.S., Mexico, and England, wherein 47%, 39%, and 35% of the population, respectively, is estimated to suffer from obesity by 2030 (16). This increase in obesity is, in part, attributed to an over reliance on animal-based diets. Plant-based diets are more associated with healthy living and studies, as cited in the Journal of American Heart Association, have shown how such diets can lower the risk of cardiovascular disease (17).

Dr Ambika Satija of the Department of Nutrition at the Harvard T.H. Chan School of Public Health studied the dietary data of about 209,000 adults (43,000 of whom were men) over two decades and cites the need to reduce rather than remove meat from daily diets.

"For heart health protection, your diet needs to focus on the quality of plant foods, and it's possible to benefit by reducing your consumption of animal foods without completely eliminating them from your diet." (18)

In an effort to curb the rise of obesity and raise awareness of the benefits of a plant-based diet, The Soil Association in the UK is calling for a mandatory, weekly 'plant-based protein day' in schools to make school menus more climate friendly and

tackle obesity by increasing fibre intake. Rob Percival, Head of Policy for Food & Health at the Soil Association, said;

"The updated School Food Standards should require that all schools serve a plant-based protein day each week. The current, non-compulsory advice for a meat-free day is too weak. We know children would benefit nutritionally from eating more beans, pulses, and plant-based proteins and the climate would also benefit – we should all be eating less and better meat. Leading Food for Life schools are already showing that it is possible to serve children healthy plant-based meals, with the cost saving used to 'trade-up' to higher-welfare and more sustainable meat for the rest of the week. It's time the government caught up." (19)

The world's population is estimated to reach 9.8 billion by 2050 and to keep up with demand, farmers and producers will have to boost their meat output by 200 million tonnes to reach 470 million tonnes by 2050, and annual cereal production will need to rise to 3 billion tonnes from current levels of 2.1 billion tonnes (20). In developing countries, much of this increase will have to be accommodated through increases in yields and cropping intensity rather than expansion of arable land and thus contributing to a decrease in soil quality and biodiversity.

As consumers are seeking to lower their carbon footprint and make healthier choices, the demand for plant-based foods is growing and manufacturers are responding by branching out to incorporate plant-based brands into their portfolio to meet the growing interest in flexitarianism.

Many animal agriculture businesses are embracing the trend towards plant-based products. Nestle has acquired Sweet Earth Foods and Danone bought WhiteWave and rebranded this as DanoneWave (21).

This is also evident in the fast food sphere as many seek to capitalise on the trend with the recently launched McDonalds PLT (plant lettuce and tomato) burger, KFC's chicken alternative Quorn burger and Subways meatless Beyond Meatball Marinara.

This direction of travel makes commercial sense because the global plant-based food and beverage alternatives market is expected to reach $80.43 billion by 2024, rising at a CAGR of 13.82% during the forecast period from 2019 to 2024 (22).

As the market grows, so will the need for a universal benchmark that provides consumers, producers and retailers with the food safety reassurances they need when buying, making or selling plant-based alternatives.

Regulatory framework for food labelling

Food labelling is of importance in this debate because it has long been a source of confusion for consumers. For example, UK regulation states that food labelled as low fat must have less than 3g of fat per 100g, but this doesn't account for the typical increase in sugar that is used as a substitute (23). Consequently, consumers are often misled into believing such food is a healthier alternative. This kind of lack of clarity can be addressed through trusted trademarks.

In the UK and the EU, there is no legal definition of 'vegetarian' or 'vegan', although the European Commission has begun the process of creating a common definition (24). Inconsistencies in food labelling regulation have been driven, in part at least, by a piecemeal approach to the treatment of plant and meat-based food allergens. Food manufacturers are responsible for self-regulation when describing plant-based products and this is inherently inconsistent and can be misleading.

In 2016, German Federal Consumer Protection Ministers sought to overcome this potential barrier to EU trade by agreeing a common definition of vegan which can be applied to food monitoring. Greater legal clarity would give manufacturers the reassurance they require when seeking to expand their vegan and vegetarian offers. Their definition states that a product may be labelled as vegan if substances of animal origin have not been added at any stage of the processing and this includes additives, flavourings, enzymes and processing agents (25).

In the US, the Plant Based Foods Association released voluntary guidelines for the labelling of plant-based meat alternatives. Their proposal, aimed at making labelling clear and comprehensible, allow for references to the type of animal-meat that it seeks to replicate such as chicken, beef and the form of the product i.e. fillets, nuggets, burgers, but this must be supported by a qualifier that indicates the foods plant-based origin. Suggested qualifiers include 'plant-based', 'vegan', 'meatless', 'meat-free', 'vegetarian' and 'made from plants' (26). But this remains a step too far for producers of animal-based food products who want a clearer demarcation between their products and plant-based alternatives. For them, this solution falls short of that.

The European Parliament began efforts at harmonisation in April 2019 with the approval of a ban on producers of vegetarian food using nomenclature usually deployed to describe meat including steak, sausage, escalope, burger and hamburger. This not only illustrates the perceived threat to traditional meat from the plant-based food lobby but also how seriously regulators are taking the issue.

Under article 17 of Regulation (EU) No 1169/2011, the Parliament proposed that names currently used for meat products and meat preparations will be reserved exclusively for products containing meat. This move was seen as a blow for plant-based food even though it is still at the proposal stage and will take much more deliberation to see this enshrined into law (27).

Many producers of plant-based products challenge this approach to labelling because they claim it will limit growth by relegating their products to more obscure parts of the supermarket aisle at a time when they are targeting mainstream shoppers who want to reduce their meat consumption. They argue that unless plant-based products are sold alongside their meat counterparts, it will become harder to demonstrate to the public that these goods are a healthier and accessible alternative.

The issue of food labelling is contentious and covers largely uncharted waters as the plant-based food lobby continues to argue that it has created a new category which necessitates new rules and guidelines.

The current reliance on industry self-regulation introduces an element of consumer doubt. A universal benchmarking framework on plant-based standards will validate such efforts and provide much needed independent endorsement on product origin.

The threat of cross contamination and the need for product integrity

With the proliferation of plant-based products filling the supermarket shelves, consumers want reassurance that the choices they make are valid and retailers need to be confident in the descriptions of the products they are selling. They want to know that plant-based food has not been contaminated with animal products during the manufacturing process and nor does meat-based food contain any potential allergens.

Product integrity is gaining critical importance given the increase in allergies among children (28) (29). Currently, this is challenging for consumers because some processed meat products contain the allergen soy in various hidden forms, e.g. emulsifiers, which are hard to identify from the ingredients list alone. Certification would provide more clarity on product ingredients and their descriptions and this would put those shoppers dealing with allergens at ease and reassure vegans concerned about potential cross-contamination with animal products.

In February, Co-Yo, an alternative dairy brand recalled many of their vegan yogurts because they were found to contain trace amounts of milk protein. Cow's Milk Protein Allergy causes digestive problems, such as vomiting, colic, diarrhoea or constipation, and hay fever-like symptoms or eczema that does not improve with treatment. In

extreme cases, allergic reactions can be fatal. Co-Yo claimed that the contaminated material came from a third-party supplier and they were not aware of the trace contents (30).

In advance of 'Natasha's Law' (31), which is due to come into force in the UK 2021, both retailers and food producers have become significantly more stringent in their approach to potential cross contamination and product integrity. Natasha's Law came about following the tragic death of Natasha Ednan-Laperouse who suffered a fatal allergic reaction to sesame seeds that were baked into a sandwich she bought from Pret A Manger. The label did not indicate the presence of a potential allergen.

Given the lack of clarity on labelling and risk of cross contamination across the supply chain and on premises used for food preparation, the onus is on food manufacturers and retailers to ensure their products are protected and clearly labelled for any potential allergens. The current lack of an existing universal benchmark standard on plant-based food makes guaranteeing product integrity particularly challenging.

Existing Plant-based standards and trademarks

The current regulatory framework for plant-based standards is fragmented and without a clear, universally recognised benchmark that ensures food labelled as plant-based does not contain any trace of animal products. Current plant-based standards go some way in offering assurance, but they don't go far enough.

VegeCert is a globally recognised, non-profit organization that certifies vegan and vegetarian food products. They provide brands with an independent third-party certification on the integrity of the product, ingredient verification plus an evaluation of the manufacturing process and facilities (32).

The UK based Vegan Society has the longest standing trademark. Launched in 1990 as the authentic standard for products free from animal ingredients and animal testing it is used worldwide on over 40,000 products (33). But many plant-based manufacturers dislike the term 'vegan' because it is too restrictive. Rather than providing consumers with a sense of empowerment over the choices they could make, 'vegan' is thought to be too loaded with associations of restrictive consumption and food denial to be effective in appealing to a broad consumer base. It is this broad consumer base that food brands are targeting with plant-based alternatives because people may want to reduce animal-based products, but not exclude them entirely.

In 2018 the US based Plant Based Foods Association launched a 'certified plant-based' certification and logo. They argue

that the terms 'vegan' and 'plant-based' are not interchangeable because veganism is a lifestyle choice associated with an allegiance to an environmental or animal protection cause rather than a decision to simply eat more plant-based foods. PBFA Executive Director Michele Simon explains;

"We're a mission-based organisation whose mission is to support the plant based food industry in order to help consumers reduce their meat and dairy consumption, so we want the phrase [certified plant-based] to be limited to categories of foods that are solving a problem, and not used on things [that are not really displacing meat and dairy] such as cereal, granola and bread." (34)

Non-profit organisations like VegeCert, the Vegan Society and the Plant Based Foods Association go some way in responding to consumer concerns over product integrity but, unlike BRCGS, their real strengths lie outside standards and certification. BRCGS Standards have worldwide recognition and are accredited by authoritative Accreditation Bodies to international standards.

BRCGS' 'Plant-Based Global Standard' offers clarity and consistency given the widely divergent interpretations of what food can be worthy of the 'plant-based' label. BRCGS' Standards guarantee the standardisation of quality, safety and operational criteria and ensure that manufacturers fulfil their legal obligations and provide protection for the end consumer.

How the BRCGS is responding

There is a need for clarity on all types of food substances that BRCGS seeks to address through the launch of the 'Plant-Based Global Standard' (35). This has been developed by food industry experts from retailers, manufacturers and food service organisations to ensure it is rigorous and detailed yet easy to understand.

BRCGS has successfully developed food related standards and its Gluten-Free Certification Program (GFCP) is one such example. It ensures foods are without any trace of gluten, a protein typically found in grains such as wheat, barley and rye. This benchmark is instrumental in ensuring those with celiac/coeliac disease can make choices in the supermarket that allow them to follow a gluten free diet. It has successfully provided a framework for the management and control of gluten in gluten-free products in the manufacture, processing and packing of food, cosmetics, supplements and drugs and is globally recognised.

Following on from the worldwide success of the GFCP, BRCGS developed the Plant-Based Global Standard to offer the same assurance to those selling and consuming plant-based foods. The industry has been

challenged with meeting growing consumer demand while also protecting brand reputation and mitigating risk. As a response to this, BRCGS' Plant-Based Global Standard builds rigorous supply chain assurance programmes and in the case of plant based are focussed on greater product integrity through the new standard.

BRCGS recognises that food labelling is in a state of flux and, in many cases, the voluntary food information that is provided is confusing and uses terms that are not universally recognised. The BRCGS Plant-Based Standard seeks to help food business operators and enforcement authorities to strike a balance between the provision of mandatory and voluntary food information in a way that offers the consumer confidence in the choices they want to make.

This universal set of global standards goes further than others such as The Vegan Society and VegeCert. BRCGS advocate a management system approach that is a proactive and a proven way of reducing risk and creating greater brand confidence. Simply looking at a list of ingredients is not thorough enough and an evaluation of the end-to-end process onsite is needed to ensure suppliers are managing the whole process correctly. The BRCGS Plant-Based Standard ensures the absence of animal inputs in plant-based products, in the manufacturing, processing and packing of:

- processed foods, both own brand and customer branded
- ingredients for use by food service companies, catering companies, and food manufacturers
- pet foods (GFSI benchmarked schemes only)
- natural health products

Summary

The Plant-Based Global Standard was developed because even the most informed consumer may unknowingly eat animal products or ingredients due to the challenge of correctly identifying animal-containing ingredients based on product labelling information alone. It is based on a comprehensive management system approach and provides a framework for manufacturers to assist them in the production of plant-based food. It includes operational criteria required to be in place to ensure that plant-based products are free of material of animal origin.

The plant-based on-pack trademark will empower consumers to make informed choices quickly and easily. The trademark will also allow brands and products to differentiate themselves and remain competitive in an increasingly crowded market.

Figure 4: BRCGS' new Informed Trademark

BRCGS' 'Plant-Based Global Standard' offers clarity and consistency given the widely divergent interpretations of what food can be worthy of the 'plant-based' label. These Standards guarantee the standardisation of quality, safety and operational criteria and ensure that manufacturers fulfil their legal obligations and provide protection for the end consumer.

For more information, please contact the **BRCGS: Contactus@brcgs.com**

References:

1. https://www.oxfordmartin.ox.ac.uk/news/201603-plant-based-diets/
2. https://www.mintel.com/press-centre/food-and-drink/plant-based-push-uk-sales-of-meat-free-foods-shoot-up-40-between-2014-19
3. http://www.thetimes.co.uk/article/ee5c4afa-2cb6-11ea-af3f-b11f88c70ecc
4. https://www.un.org/development/desa/en/news/population/world-population-prospects-2017.html
5. https://eatforum.org/content/uploads/2019/07/EAT-Lancet_Commission_Summary_Report.pdf
6. https://www.millenniumassessment.org/documents/document.356.aspx.pdf
7. https://www.foeeurope.org/sites/default/files/publications/foee_hbf_meatatlas_jan2014.pdf
8. https://www.theguardian.com/us-news/2019/may/30/topsoil-farming-agriculture-food-toxic-america
9. https://news.mongabay.com/2019/05/new-report-examines-drivers-of-rising-amazon-deforestation-on-country-by-country-basis/
10. https://www.theguardian.com/food/2020/jan/01/food-in-2050-bacon-grown-on-blades-of-grass-and-bioreactor-chicken-nuggets
11. http://www.fao.org/3/y4252e/y4252e05b.htm
12. https://www.danone.com/impact/planet/regenerative-agriculture.html
13. https://www.packagedfacts.com/about/release.asp?id=4132
14. https://www.ciwf.org.uk/media/7432176/why-we-need-to-reduce-livestock-product-consumption-by-50-by-2050.pdf
15. https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight
16. https://www.oecd.org/els/health-systems/Obesity-Update-2017.pdf
17. https://www.ahajournals.org/doi/10.1161/JAHA.119.012865
18. https://www.health.harvard.edu/staying-healthy/the-right-plant-based-diet-for-you
19. https://www.soilassociation.org/news/2019/may/17/plant-based-protein-day-needed-on-school-menus/
20. http://www.fao.org/fileadmin/templates/wsfs/docs/expert_paper/How_to_Feed_the_World_in_2050.pdf
21. https://www.forbes.com/sites/katrinafox/2017/12/27/heres-why-you-should-turn-your-business-vegan-in-2018/#4de3ee2a2144
22. https://www.prnewswire.com/news-releases/global-plant-based-food-and-beverage-alternatives-market-anticipated-to-reach-80-43-billion-by-2024--300909044.html
23. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/204320/Nutrition_and_health_claims_guidance_November_2011.pdf
24. https://www.foodnavigator.com/Article/2017/11/03/EU-to-set-legal-definition-of-vegetarian-and-vegan-food
25. https://www.foodnavigator.com/Article/2016/06/01/Germany-backs-proposal-for-legal-definition-of-vegetarian-and-vegan-food
26. https://www.foodbusinessnews.net/articles/15040-meat-alternative-labeling-standards-published
27. https://www.theguardian.com/food/2019/apr/04/eu-to-ban-non-meat-product-labels-veggie-burgers-and-vegan-steaks
28. https://www.bbc.co.uk/news/health-46302780
29. 29.https://www.foodallergy.org/life-with-food-allergies/food-allergy-101/facts-and-statistics
30. https://www.bbc.co.uk/news/uk-43143993
31. https://www.gov.uk/government/news/natashas-legacy-becomes-law
32. https://vegecert.com/
33. https://www.vegansociety.com/your-business/about-vegan-trademark
34. https://www.foodnavigator-usa.com/Article/2018/11/15/Certified-plant-based-logo-may-have-broader-appeal-than-vegan-stamp-says-PBFA#
35. https://www.brcgs.com/brcgs/plant-based-global-standard