

PLAN(T)S FOR PROFESSIONALS





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FOREWORD

At a time when the world population is re-evaluating their lifestyle and diet choices, it is essential for chefs and foodservice professionals to prepare for and support the global shift towards healthier menu lines that provide more plant-based food options.

Plan(t)s for Professionals explores the reasons behind the rapidly increasing demand for plant-based foods, which has now become one of the biggest global food trends.



Understanding the motivation for today's clientele in selecting plant-based food options and discussing why you might consider offering more such items on your menu provides valuable insight into this growing customer base.

Plan(t)s for Professionals also shares the scientific case, with evidence-based information on how plant-based foods can help reduce greenhouse gas emissions in the foodservice sector, promote a sustainable environment, and support public health.

Plant-based meat, dairy, cheese, and egg alternatives are showcased, offering creative ways to enjoy familiar menu items while supporting a plant-based food diet. With the 'How-to Guide' for creating recipes for plant-based alternatives, you will be equipped to explore new flavour profiles with creative plant-based food combinations while offering dietary choices that support a healthy lifestyle.

By applying the tips provided in *Plan(t)s for Professionals*, you will be ready to design or adapt your menu to meet today's plant-based market, increase your overall sales, and ensure customer satisfaction.

Become a part of this exciting future today! Embrace the global shift towards plant-based foods and develop diverse, healthy and sustainable menu items that promote quality of life!

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The World Association of Chefs' Societies (Worldchefs) is dedicated to education, training and professional development of chefs worldwide. As an authority and opinion leader on food, Worldchefs represents a global voice on all issues related to the culinary profession, including humanitarian concerns and sustainability. Visit: www.worldchefs.org

2. WHY SERVE PLANT-BASED FOODS?

Plant-based foods represent one of the biggest food trends of the decade. Many people are looking for tasty and healthy food options that don't contain meat, fish, dairy, or eggs. Here are six reasons to jump on the plant-based train today.

1. Serve more customers

In addition to vegetarians and the increasing number of vegans, there is a fast-growing group of consumers who consciously choose to eat fewer animal-based products. This group consists of flexitarians or reducers who regularly choose plant-based options – for their health, the environment, or just to try something new. The younger generations, including millennials and Generation Z, are especially aware of the negative impacts of a meat-heavy diet. The scale and reach of the “Fridays for Future” movement, for example, attests to this growing awareness and the related shifts in consumer behaviour.

2. Stand out from the crowd

Regardless of whether you work in a restaurant, canteen, café, or for another type of food-service company, the traditional offerings in your industry most likely rely heavily on animal-based ingredients. Offering plant-based options almost always means that you will have a chance to experiment with creative and innovative combinations and different ingredients, which will set you apart from the crowd.

3. Consider inclusivity

As a food professional, you need to take into account numerous dietary requirements. In addition to vegetarians and vegans, you also need to accommodate for people's religious preferences (e.g. kosher, halal) as well as for food allergies and intolerances. Plant-based meals can cater to the needs of many of these groups at once. Moreover, they are inclusive, helping people from different backgrounds connect over a meal.



Picture from rawpixel.com, Shutterstock

4. Promote sustainability

Sustainability has become a central theme for every company. Perhaps you are already trying to save water or are offering organic products on your menu lines. Increasing the number of plant-based menu items and ingredients is an even more effective way to reduce your company's environmental impact. On an individual level, a plant-based diet uses less resources and less land, and emits less greenhouse gases. For example, the production of one beef burger patty requires about 2,250¹ litres of water. In comparison, the global average water footprint of a soya burger patty is just 158 liters.²

5. Keep your costs low

Contrary to popular belief, plant-based food does not have to be expensive. In fact, shifting to more plant-based ingredients can save you money! Whole-plant foods such as vegetables and legumes are generally cheaper than animal-based products. By replacing animal ingredients or adjusting the animal/plant ratio in your dishes, you can easily reduce costs. The increasing pressure on the livestock sector to become more sustainable and animal-friendly will only further increase the price of meat, dairy, and eggs in the coming years. Textured vegetable protein (TVP) is just one example of a nutritious and very affordable alternative to minced meat that can help you cut costs, by either reducing or replacing the meat content of a dish. Plant-based alternatives also have greater longevity and many of them are shelf-stable, which can help save storage space and reduce the frequency of ordering stock.

6. Profit from the 'veggie-effect'

Vegetarians and vegans love good food – and are prepared to go the extra mile to find it! They are usually much more aware of the existing range of restaurants than the average consumer, and while they might sometimes be a bit more critical of your offerings, they also tend to become very loyal customers, once convinced. Once they have had a positive experience, they will keep coming back and freely promote your venue and food among their friends and on social media. The popularity of plant-based content and vegan influencers on platforms such as Instagram does a great deal to spread the word about products, restaurants, and foods that are worth trying. Moreover, vegetarians and vegans are often the decisive factor when a group of people is choosing a restaurant. If you don't have any plant-based options, you will miss out not just on trade from vegan clientele but also that of their non-vegan friends, family, and colleagues who eat out with them.

3. WHO EATS PLANT-BASED FOODS?

The plant-based customer base is a diverse and rapidly growing market. The following groups of people will certainly appreciate it if you include plant-based options on your menu:

Flexitarians and reducers

The largest and fastest-growing group of plant-based eaters consists of flexitarians and reducers. Reducers are people who are trying to lower their consumption of meat and/or animal-based products. The definition of flexitarianism remains a little more ambiguous. There are two broad ways to define flexitarians:

- People who, for health or ethical reasons, are interested in eating more plant-based foods, or simply like trying out new flavours.
- People whose diet is mostly vegetarian, but on rare occasions includes high quality organic meat or fish.^{3,4}

Vegetarians

Vegetarians do not eat meat, fish, or ingredients derived from dead animals, such as gelatine or animal stock. For instance, juices and wines are not vegetarian if they are clarified with gelatine. Many cheeses are not vegetarian either, as they are often curdled with rennet, which is extracted from a calf's stomach. However, not all vegetarians are equally strict about this distinction.

Vegans

Vegan is the new vegetarian. More and more people are ditching not just meat and fish but also other animal-based ingredients such as dairy, eggs, and honey. The enthusiasm is particularly high among millennials, of whom no less than 26% identify as vegetarian or vegan. In the coming decades, this generation, the largest to date, will increasingly dominate the market.

3% OF THE GLOBAL POPULATION IS VEGAN

	IPSOS ¹	MCG GURUS ²
VEGAN	3%	3%
VEGETARIAN	5% 4% male/6% female	3%
FLEXITARIAN	14%	20%
PESCATARIAN	3%	
OMNIVORE	73% 74% male/72% female	

1: IPSOS (2018): An exploration into diets around the world.
2: FMCG GURUS cited from Vegconomist (2020): Study shows a 3rd of world population follow a diet based on reduction or elimination of meat.



Picture from sweet marshmallow, Shutterstock

Whole-food, plant-based eaters:

Whole-food, plant-based diets are an important sub-category of veganism and healthy eating. Popularised by doctors and health bloggers, it is not so much a strictly defined diet than a general approach to eating. Arguably less strict than veganism (as animal-based products are not entirely off-limits), such a diet does stress the limiting or avoidance of animal-based products, as well as processed and refined foods such as added sugars, flour, and oils, and emphasises vegetables, fruits, nuts, pulses, and whole grains. Health-conscious consumers are increasingly gravitating towards this trend or combining this approach with veganism.

Religious groups:

Some religions, including Hinduism, Jainism, Rastafarianism, and certain Christian sects prescribe a vegetarian or completely plant-based diet. Muslims and Orthodox Jews don't eat pork or gelatine, while it is not considered kosher to combine meat and dairy products in the same meal. When people who adhere to the religions eat out, a meal without meat or dairy is often the safest choice for them.

People with allergies:

While some allergens are of plant origins, milk allergies and lactose intolerance are widespread in most parts of the world. Egg-white allergy is also common among young children. Fish and shellfish allergies are less prevalent but can nonetheless appear in adulthood. Plant-based alternatives to dairy, meat, fish, and eggs offer a great solution if you want to reduce your list of allergens of animal origin.

4. DIET TRENDS

While a few years ago, some may have argued that the plant-based movement will soon be over, it is clearly not a short-term trend, but a long-term shift that is here to stay. Additionally, it is also being combined with other food trends to create sub-trends such as those below.

Healthy hedonism
Hedonism stands for the pursuit of joy and pleasure in order to achieve happiness. Many people think that health and pleasure don't go hand in hand. However, healthy hedonism proves otherwise. With high-quality plant ingredients such as fruits, vegetables, nuts, legumes, and seeds, and a creative approach to cooking, healthy-hedonist meals satisfy both the eyes and the taste buds. Social media plays an increasingly important role in this trend, as these types of meals are highly 'instagrammable.'

Clean eating
Clean eating is about keeping one's diet as natural and unprocessed as possible. Sufficient healthy fats, complex carbohydrates, and proteins are very important. Products such as white flour or sugar, which do not supply any nutrients other than energy and carbohydrates, are avoided. Artificial additives, unhealthy fats, and alcohol are also avoided.

Snackification
Snacking is one of the latest food trends, with the rigid breakfast-lunch-dinner model being replaced by numerous smaller meals throughout the day. Instead of classic snacking options such as pastries and candy, many people are consciously choosing healthier plant-based options such as nuts, smoothies, and protein bars.

Conscious Consumerism
A conscious consumer is someone who purchases with awareness and takes into account aspects such as sustainability and animal suffering. This is not limited to food but also includes cosmetics, clothing, and furniture. Labels such as 'cruelty-free' or 'not tested on animals' influence the purchasing decisions of conscious consumers.

5.5 PROS

The motivations of the plant-based crowd are as diverse as the customers themselves. That said, the five most common and important reasons for eating (more) plants are:



PRO
TASTE

Taste

Today's consumers are always looking for new and exciting taste experiences. The emerging plant-based food sector has proven to be a rich source of innovation and can help provide the novelty and variety that consumers crave. A plant-based diet often serves as a gateway to leaving the familiar path and exploring new products, flavours, new ways of preparing food, while finding inspiration in both the latest food science and age-old culinary traditions from around the world. For flexitarians and reducers, taste is often the main deal maker or breaker when it comes to plant-based products and recipes. Impress your guests with delicious taste experiences and they will be more likely to choose a plant-based option, regardless of their usual dietary preferences.



PRO
HEALTH

Health

It is now widely accepted that a plant-based diet offers numerous health benefits compared to a diet centred on animal-based products. While animal-based diets carry several health risks, a rich and varied plant-based diet can offer prevention and treatment of a host of modern lifestyle diseases, including some forms of cancer and hypertension. The risk of infections from salmonella and campylobacter pylori is also considerably reduced, due to the long shelf life of plant-based foods.



PRO
JUSTICE

Fairness

It is expected that the earth's population will reach about 10 billion by 2050.⁵ The question of how to feed a growing global population has never been more urgent. Achieving food security for everyone means rethinking animal agriculture and shifting towards resource-efficient plant foods. Two billion more people could be fed without expanding current agricultural areas and causing further deforestation if just half of the crops currently produced to feed farmed animals were used directly for human consumption.⁶



PRO
ANIMALS

Animals

There is a growing awareness about the intelligence and social capabilities of pigs, cows, chickens, and fish, as well as about the immense suffering these animals have to endure in order to meet the demand for more meat, milk, and eggs. The rights and welfare of animals have been an important driver in the increased demand for plant-based foods from the very beginning, and continue to do so.



PRO
ENVIRONMENT

Environment

A plant-based diet can have numerous positive effects on the environment. Due to tremendous land, water, and energy consumption, meat and dairy products are highly inefficient. Livestock farming is a major cause of our key environmental problems, including greenhouse gas emissions and loss of species and habitats. As well as its many other benefits, a plant-based diet is also one of the simplest and most effective ways to make a positive impact on climate change.

6. THE SCIENTIFIC CASE FOR PLANT-BASED FOODS

Is it possible to define a diet which is both healthy for humans and environmentally sustainable? Leading experts from all the relevant scientific fields – including medicine, dietetics, and environmental studies – answer with a definite “yes”. In general, healthy and sustainable diets are defined as diets that are high in grains, pulses, fruits, vegetables, nuts, and seeds, as well as low in energy-intensive animal-based products and junk foods.^{7 8}

International authorities such as the World Health Organization (WHO), the Intergovernmental Panel on Climate Change (IPCC), and the Food and Agriculture Organisation (FAO) all promote a shift towards a plant-based diet with little or no animal-based products as an efficient means of combating climate change. The IPCC’s recent report states that this kind of dietary shift presents major opportunities for reducing greenhouse gas emissions from our food systems and improving health outcomes.⁹

The EAT-Lancet Commission, which comprises 37 leading scientists from 16 countries, called for “a radical transformation of the global food system”¹⁰ in their 2019 report on planetary health. The “planetary health diet” that they suggest consists of approximately half a plate of vegetables and fruits. The other half should consist primarily of whole grains, plant-protein, unsaturated plant oils, and (optionally) modest amounts of animal protein.



It is the official position of the American Academy of Nutrition and Dietetics that “appropriately planned vegetarian, including vegan, diets are healthful, nutritionally adequate, and may provide health benefits for the prevention and treatment of certain diseases.”¹¹ It goes on to state that such diets can be successfully implemented in all stages of life, as well as for athletes, and help to avoid and to manage such health conditions as ischemic heart disease, type 2 diabetes, hypertension, certain types of cancer, and obesity.¹²

In 2019, the Canadian Food Guide removed the dairy food group from their guidelines altogether. Instead of promoting certain types of foods, as was the case in the past, the guide focuses on nutrients such as protein, which can be derived from both animal-based and plant-based products.¹³ The many benefits of a plant-based diet constitute scientific consensus, not an alternative opinion. Fortunately, it is no longer only the experts, but also the general public, who are picking up on the message.

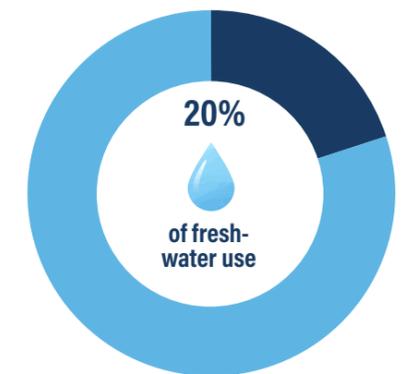
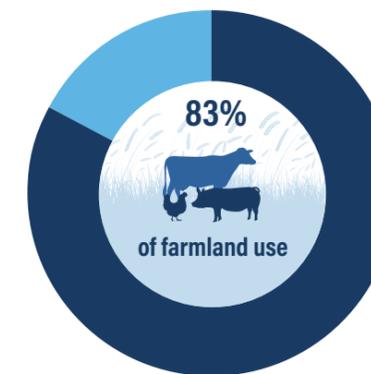
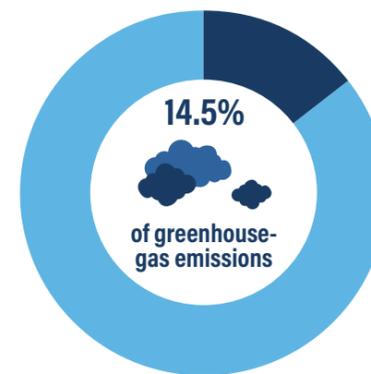
More plants for less greenhouse gases

Across the world, rising incomes and urbanisation are driving an increase in meat consumption and facilitating a global food transition in which less-processed, highly plant-based traditional diets are being replaced by diets higher in refined sugars, refined fats, and animal-based products.

This increasing demand for animal-based products is having a devastating impact on the environment. Animal agriculture is one of the world’s largest contributors to climate change, and is responsible for at least 14.5% of greenhouse gas emissions.¹⁴ According to the latest IPCC report, the global food system produces up to 36% of the world’s greenhouse gas emissions.¹⁵ This means that shifts in the way we produce and consume our food have enormous potential to positively affect emissions, climate change, and food security.

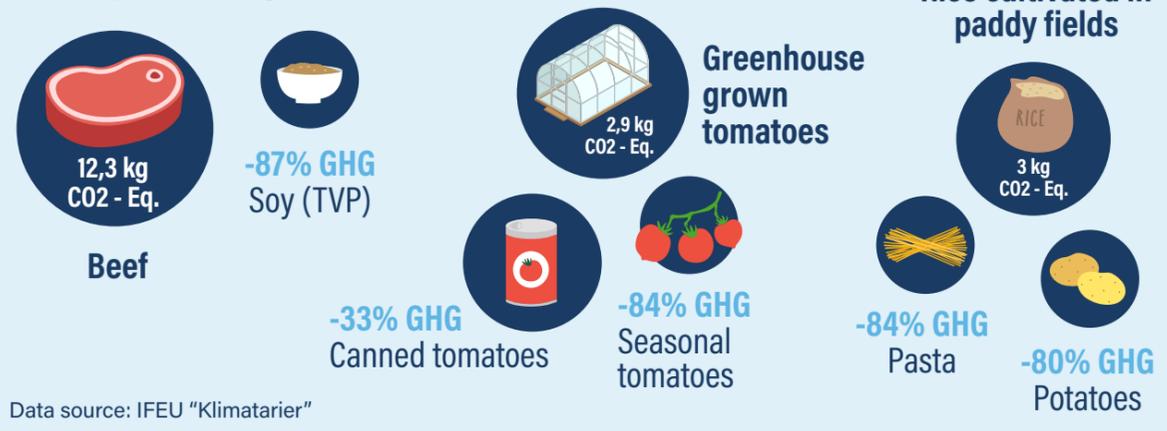
There is consistent evidence that diets high in plant-based foods and lower in animal-based products are less damaging to the climate. Consider, for example, that producing 1 kg of beef releases between 16 kg and 30 kg of carbon dioxide into the atmosphere,¹⁶ while producing 1 kg of tofu releases only 1-2 kg of carbon dioxide.¹⁷

In addition to being a huge source of emissions, animal agriculture further exacerbates climate change, as vast areas of carbon-absorbing forests, grasslands, and wetlands are cleared in order to provide land for grazing and to grow feed crops. Often referred to as ‘the lungs of the earth’, the Amazon rainforest is critical to regulating the world’s climate and weather cycles. Yet agriculture is responsible for about 80% of global deforestation.¹⁸



If the consumption of meat and other animal-based products increases at current rates, global greenhouse gas emissions from animal agriculture could account for nearly 80% of global emissions by 2050.¹⁹ Recognising the climate impact of different foods is a crucial first step in making climate-friendly food choices. However, although the consumption of animal-based products plays a major role in climate change, there is still not enough public awareness of the link between diet and climate change. As a caterer or a restaurant owner, you have the power and the responsibility to educate your customers and contribute to the global goal of reducing greenhouse gas emissions in an efficient way by introducing more plant-based options to your menu and reducing the amount of animal-based ingredients you use.

Example: Bolognese/Chili sauce*



For personal and public health

With quality of life continuously improving across the globe since the beginning of the 20th century, many of our habits and lifestyle choices have also changed drastically. For example, global meat consumption has quadrupled since the 1960s²⁰, while per-capita milk consumption has gone up by 14% in the last 20 years.²¹ Some of the most widespread non-communicable diseases today are directly related to these changes in lifestyle and eating patterns. High blood pressure, obesity, type 2 diabetes, and cardiovascular diseases can all be managed and even avoided by reverting to a more plant-based diet which is low in saturated fats, salt, and refined sugars.

Plant foods contain no dietary cholesterol and provide a plethora of vitamins, minerals, and secondary plant compounds, all of which play an important role in human health. Another substance which can be only delivered from plants and is notoriously lacking in the typical modern diet is dietary fibre. Dietary fibre can help manage hunger and satiety and thus help with weight control.²² More importantly, it shortens the transit time of food in the intestine, thus aiding digestion. Fruits and vegetables also contain high amounts of water, which provides additional hydration.

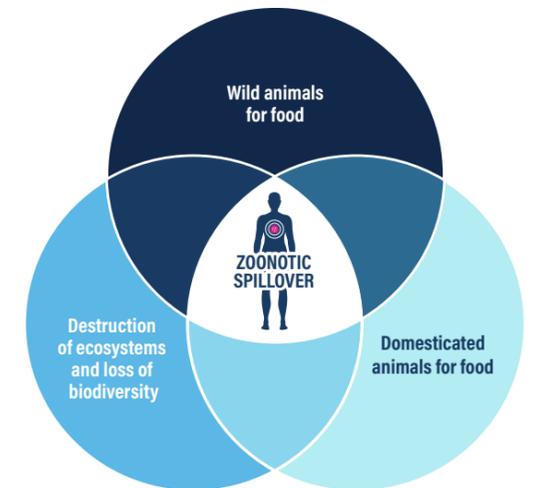
The health benefits of a plant-based diet

Long-term studies have provided valuable evidence of the health effects of a plant-based diet, compared to a diet high in animal-based products. They show that people who eat more plants have a much more favourable lipid profile (low total and LDL cholesterol) and therefore a lower risk of cardiovascular disease, the most widespread of all lifestyle diseases.²³ In addition, a whole-food plant-based diet and a diet low in saturated fat can decrease body mass index (BMI) and lower blood pressure.

Thus, people who eat a plant-based diet have a significantly lower risk of obesity, type 2 diabetes, and heart disease than those who eat a diet rich in animal-based products. A well-planned plant-based diet is suitable for every stage of life, including infancy, adolescence, pregnancy and lactation, and old age.²⁴

Global health

A plant-based diet impacts positively not only on individual health but also on global health, which is intrinsically linked to the current state of animal agriculture. Animals can become carriers of germs such as viruses, bacteria, parasites and fungi, and, through direct and indirect contact, these can be transferred to humans, leading to life-threatening illnesses and even pandemics. This transfer can occur not only from living animals to humans (e.g. factory workers and farmers), but also from animal-based products to humans (e.g. swine flu, salmonella, E. coli). "Scientists estimate that more than 6 out of every 10 known infectious diseases in people can be spread from animals, and 3 out of every 4 new or emerging infectious diseases in people come from animals."²⁵ With a simple reduction of animal-based products in our diets we can significantly decrease the risk of zoonotic diseases such as COVID-19 that threaten global health.



7. CHANGE YOUR MENU WITH THE 3 RS

The shift towards more plant-based food presents the food sector with a unique challenge and numerous opportunities. The most widespread approaches can be summarised by the 3 Rs.



Re-imagination

The idea of three components on the plate, with meat as the centerpiece, is fast becoming obsolete. Update your menu by including novel plant-based dishes and rethinking well-known meat-based ones. Start with the classics: many popular recipes can easily be 'veganised' – it often comes down to changing just one ingredient and a little creativity! After that, you can go beyond the familiar and try out new ingredients or serving methods. You will quickly gain new perspectives on what a modern meal can look like.



Reduction

Reduce the amount of meat and dairy in your recipes by simultaneously increasing the amount of vegetables, fruit, grains, nuts, and seeds. This method is known as blending and is especially well-suited for customers who want to consume animal-based products more consciously, without eliminating them completely. Numerous retailers have already implemented this approach by offering blended goods, while at the same time stressing their environmental and health benefits.



Replacement

Where possible, replace unnecessary or inconspicuous animal ingredients with plant-based ones. Start small and opt for plant-based mayonnaise, sauces, and salad dressings. Your customers with special dietary requirements will be grateful, while others will not even notice the difference.

8. INCREASE SALES AND CUSTOMER SATISFACTION WITH THESE 3 TIPS:

Communication and campaigns

Communication:

In order to make a new plant-based offering successful, a highly skilled kitchen team is not enough. While the meals themselves should be healthy and delicious, how you market them is also very important. By communicating effectively about a new offering, you can send a message to your potential customers. You should aim to attract attention and induce an attitude on the part of consumers that will motivate them to visit your establishment. The success of such promotional activities is based on successfully conveying the added value of the venue and/or the meals. The communication objectives can be wide-ranging.



Campaigns:

With campaigns such as Meat-free Mondays, you can offer your customers an easy way to try out plant-based eating without making a long-term commitment. At the same time, reducing the consumption of animal-based products, even one day a week, can have a positive impact on climate change and public health. Campaigns such as Burger King's '50/50 Burger Campaign', in which customers didn't know whether they had meat or a plant-based patty on their burger, can also have a huge impact and serve as very successful promotional devices. Some companies also introduce plant-based alternatives as a part of sustainability campaigns such as Earth Week. For example, you can use a greenhouse-gas calculator to show your guests how much CO2 they have avoided by choosing more plant-based dishes.



Nudging

The choices that we make – when we order online, in a shop, or in a restaurant – are often subtly controlled by our environment. The order and the tone of how various options are presented influence whether we desire something or not. This principle is called nudging. Make clever use of this approach and you can make it easier for your customers to make sustainable choices.



Tips for naming and labelling:

The name of a dish is very important. A plant-based dish often sells better when it is not overtly presented as such – otherwise, the impression might be created that this offering is intended only for vegans and vegetarians. So, rather emphasise the diverse characteristics of the dish (taste, sustainability, health factors) instead of its 'veggie-ness'. Why label a dish 'vegan lasagne' if 'spicy oriental lasagne with aubergine and lentils' sounds much more appealing? For plant-based customers, a simple icon such as a 'V', a leaf, or a carrot, will suffice. Another approach is to make the plant-based version of a meal the default option. Customers often have to make extra efforts to order a meat- or dairy-free option. Why

not do a 180 on this by making plants the foundation of your menu and letting customers who prefer animal-based options order those as an extra or in the form of a topping? The positioning of plant-based options on the menu also plays a major role. In a study undertaken by the London School of Economics, orders for plant-based items doubled by 56% among non-vegetarians simply by including such dishes in the main menu, instead of in a specific category.²⁶

Tips for physical presentation:

In terms of physical presentation, it is important to make it as easy as possible for guests to gain access to healthy plant-based food. This can be achieved, for example, by placing plant-based dishes at the beginning or in the front row of a buffet, so that they catch the customer's eye first. Additionally, you can place fruit and plant-based snacks at the entrances, exits, and cash desks. The arrangement of items on the plate also has a substantial impact on purchase decisions. Use appealing, colourful foods, play with portion sizes, and present the components attractively. Use garnishes such as herbs, nuts and seeds, sauces, and seasonings. A visually appealing meal can have additional advantages: for example, a guest might share a picture of it on social media, which will, in turn, provide additional advertising for your establishment and the specific meal item.

Staff training

If you want to offer plant-based dishes in your restaurant, it is important to maintain and perhaps revise the skills of your team. Since the focus of vocational training is usually based mostly on animal-based products, there is often a lack of know-how and creativity among chefs when it comes to preparing plant-based food. In this case, a training session with a focus on plant-based cooking would be useful for staff in order to familiarise them with plant-based cooking. It can also be beneficial to educate not only the kitchen staff, but also the serving staff, and/or waiters: knowledge about different diets, food allergies, and intolerances, as well as cultural and religious requirements, can substantially improve customer service.



SUBSTITUTION



REDUCTION



INFORMATION



RE-IMAGINATION



PARTICIPATION



INCLUSION



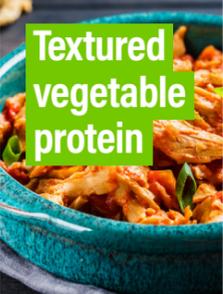
NUDGING



TRAINING

9. PRODUCT OVERVIEW

Meat alternatives

Product	Information	Derived products
 <p>Tofu</p>	<p>Tofu is made from coagulated soya milk, just as cheese is made from coagulated animal milk. In most of East Asia, both vegetarians and omnivores eat tofu. Tofu has a soft, neutral taste, so it is important to add additional flavour by seasoning it, smoking it, letting it simmer in sauces, or allowing it to marinate. Tofu is a truly flexible ingredient – it can be eaten warm or cold, mixed into sauces or spreads, or even used in desserts. For the latter, silken tofu is usually used.</p>	<ul style="list-style-type: none"> ▪ Strips ▪ Hot dogs ▪ Tofu burgers ▪ Croquettes ▪ Vegetable pie ▪ Chocolate mousse ▪ Fruit mousse ▪ Sauces ▪ Spreads ▪ Curds
 <p>Tempeh</p>	<p>Tempeh is usually made from fermented soya beans. Soya beans are cooked and inoculated with a fermenting agent in the form of a fungus – the same technology that is used to produce Camembert, for example. During the fermentation process, the fungus makes the soybeans stick together and form a solid block. Tempeh has a more pronounced flavour than tofu. Nevertheless, marinating it or seasoning it well is key.</p>	<ul style="list-style-type: none"> ▪ Smoked ▪ as 'bacon'
 <p>Textured vegetable protein</p>	<p>TVP is the abbreviation for textured vegetable protein. It is usually made from soya flour and processed into fine granules. Before being used in recipes, it must be rehydrated. TVP absorbs aromas and seasonings well, so rehydrating in vegetable stock or marinade instead of plain water will add a heartier taste to the product.</p>	<ul style="list-style-type: none"> ▪ Chops ▪ Flakes ▪ Granules ▪ Steaks ▪ Burgers
 <p>Seitan or wheat protein</p>	<p>Whereas tofu and tempeh are made from soya, seitan is made from gluten, the protein in wheat and many other grains. Seitan has a chewy texture which can differ a lot between brands. The powder used to make seitan in-house is very affordable and available in bulk.</p>	<ul style="list-style-type: none"> ▪ Chops ▪ Flakes ▪ Granules ▪ Steaks ▪ Sausages ▪ Sate ▪ Gyros ▪ Schnitzels



Current food technology makes it possible to texturise plant proteins so that they resemble the look and feel of meat more accurately than ever. This development led to the rise of 'Beyond Meat' and many other plant-based producers. The main ingredients of meat analogues are usually soya, wheat, or pea proteins, although other ingredients such as mushrooms and lupine are sometimes used.

Meat alternatives based on jackfruit are made using the unripe fruit. Part of the unripe fruit is harvested prematurely in order to provide more space and resources for other fruits (a technique called thinning out). This prematurely harvested fruit functions as a meat alternative, while the ripe fruit is consumed as a sweet meal. The fibrous texture of the unripe fruit makes it a great chicken or pulled-pork alternative.

More and more meat alternatives are becoming available. While not yet on the market, 'clean' or 'cultured' meat that is grown from animal muscle cells is forecast to make up 35% of the animal-protein market by 2040.²⁷ The first clean-meat burger was presented to the scientific community in 2013, with the patty costing a whopping 250,000 USD. The current price has now gone all the way down to 12 USD and looks set to continue to decrease to a point where it reaches price parity with conventional beef.

- Burger patties
- Meatballs
- Mince

- Burger patties
- Pulled pork
- Goulash
- 'Meat' strips

- Currently not available in retail

Pictures from Shutterstock: Pat_Hastings, Elena Veselova, Nina Firsova, Karl Allgaeuer, IriGri, Shellygraphy, Aleksander talancev

Alternative to dairy products

Product	Information	Examples	Usage
 <p>Soya milk</p>	<p>Soya milk is produced by soaking ground soya beans in water. The solids are then separated from the liquid, which is then boiled and filtered to remove any remaining solids. Soya milk contains all the necessary amino acids for healthy functioning and development, although it has no calcium, which is often added afterwards. Soya milk naturally contains lecithin, which makes it suitable for producing ice cream, whipped cream, and mayonnaise.</p>	<ul style="list-style-type: none"> ▪ Unsweetened ▪ Sweetened ▪ Flavoured 	<ul style="list-style-type: none"> ▪ As cow's milk
 <p>Nut milk Cereal milk</p>	<p>Different nuts or cereals are soaked, blended, and filtered in order to make nut/cereal milk. The taste varies depending on the ingredients.</p>	<ul style="list-style-type: none"> ▪ Almond ▪ Hazelnut ▪ Coconut ▪ Cashew ▪ Oat ▪ Rice ▪ Spelt ▪ Hemp ▪ Lupine 	<ul style="list-style-type: none"> ▪ Sauces ▪ Soups ▪ Curries ▪ Pastries ▪ Desserts
 <p>Plant-based yogurt</p>	<p>Like cow's milk yogurt, plant yogurt is produced by microbial cultures, which are added to plant milk.</p>	<ul style="list-style-type: none"> ▪ Oat ▪ Soya ▪ Cashew ▪ Coconut ▪ Almond ▪ Hemp ▪ Lupine 	<ul style="list-style-type: none"> ▪ Desserts ▪ Sauces ▪ Dressings ▪ Ice cream

 <p>Plant-based cream / cuisine</p>	<p>Many types of plant milk are also available in the form of cream. However, not all plant-based creams can be whipped. Make sure to check the packaging for the relevant information.</p>	<ul style="list-style-type: none"> ▪ Soya ▪ Oat ▪ Rice 	<ul style="list-style-type: none"> ▪ Pastries ▪ Desserts ▪ Dressings ▪ Soups ▪ Curries ▪ Sauces
 <p>Margarine and coconut oil</p>	<p>Butter can be replaced with margarine or coconut oil, with the taste and baking properties almost the same. Refined coconut oil doesn't have the characteristic coconut taste and is suitable for sweet and savoury dishes alike.</p>	<ul style="list-style-type: none"> ▪ Soya margarine ▪ Coconut oil 	<ul style="list-style-type: none"> ▪ Baking ▪ Frying
 <p>Clean Dairy</p>	<p>As with the manufacturers of clean meat, the producers of clean dairy are trying to mitigate the negative impact the dairy industry is having on the climate, the environment, and animal welfare, by developing innovative, sustainable and cruelty-free options. Current technology allows for the production of artificially cultivated casein and whey protein. Perfect Day, the US startup, produced the world's first cultured-milk ice cream in July 2019.</p>	<ul style="list-style-type: none"> ▪ Not widely available in retail yet 	

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Cheese alternatives

Product	Information	Derived products
	Plant-based cheese alternatives are most commonly made from cashews, almonds, or coconut oil, usually with the addition of water and starch. Nutritional yeast is often used to give the product its cheesy taste and aroma.	<ul style="list-style-type: none"> Same as animal-milk-based cheese
	More interesting than the industrially produced analogue cheeses are the so-called artisanal plant-based cheeses. These plant-based cheese-making techniques use the same methods as traditional dairy cheeses. Nuts are usually used as a base ingredient, which is then cultured with specific bacteria and matured to produce plant-based cheeses with very similar tastes and textures to animal-based cheeses.	<ul style="list-style-type: none"> As tapas or a snack (e.g. on a wine plate)

Egg alternatives

Product	Information	Derived products
	Plain tofu can be used as egg replacement in savoury dishes, while silken tofu is often used for desserts since it provides the appropriate texture.	<ul style="list-style-type: none"> Sweet and savoury pastries Desserts As scrambled egg
	Soya milk provides egg-like binding properties as it contains lecithin, a naturally occurring protein also found in egg yolk. You can also use soya flour: mix a tablespoon of soya flour with two tablespoons of water to replace one egg.	<ul style="list-style-type: none"> Sweet and savoury pastries Dough in general (e.g. pancakes)

Product	Information	Derived products
	Finely ground linseeds mixed with water is termed 'flax egg' and acts as a binding agent similar to egg white. However, flax egg is not suitable for fine pastries as it is particularly moist and gelatinous. Soaked chia seeds also have a gelling quality, making them ideal for use in puddings and desserts.	<ul style="list-style-type: none"> Sweet and savoury pastries Desserts
	Ripe bananas and apples, as well as pear or apple sauce – all fruits with a high pectin content – are suitable as egg replacements. However, as with 'flax egg', they make the finished product heavy and moist.	<ul style="list-style-type: none"> Sweet pastries Dough in general (e.g. pancakes)
	Baking soda and baking powder both have fermentation properties, which can be activated by using them in combination with an acid such as lemon juice or vinegar.	<ul style="list-style-type: none"> Sweet and savoury pastries
	Agar-Agar is a natural algae-based gelling agent similar to gelatine. It is often used in combination with a starchy thickener in plant-based baking and confectionery.	<ul style="list-style-type: none"> Sweet and savoury pastries Desserts
	Aquafaba is the viscous liquid which results from chickpeas, beans, or other pulses being cooked or preserved. It can be whipped or beaten in the same way as egg white, and used to produce chocolate mousse, to decorate cakes, and for baking. The finished product is indistinguishable from beaten egg-whites in terms of colour and texture	<ul style="list-style-type: none"> Sweet and savoury pastries Desserts

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Product	Information	Derived products
 Kudzu, cornstarch, and arrowroot	These are all starch-based thickeners. In savoury dishes, a combination of soya milk and cornstarch can be used for thickening. Used together with agar-agar, it gives an egg-like consistency to desserts.	<ul style="list-style-type: none"> ▪ Sweet and savoury pastries ▪ Soups ▪ Sauces ▪ Desserts
 Turmeric	The intense yellow colour of turmeric can imitate the colour of egg yolk. Portioning is key, as turmeric has a very dominant taste.	<ul style="list-style-type: none"> ▪ Sweet and savoury pastries ▪ Scrambled tofu
 Kalak namak	Black salt, also known as kala namak, is used in Indian cuisine. Its high sulphur content, similar to that of eggs, adds a characteristic eggy taste to savoury dishes.	<ul style="list-style-type: none"> ▪ In scrambled tofu
 Egg replacer	Most egg replacers are made more or less the same way and consist of a blend of different starches such as potato starch or tapioca flour. The usually white powder can be whipped up with a bit of water so that it resembles beaten egg white or just mixed with the dry ingredients in the batter.	<ul style="list-style-type: none"> ▪ Sweet and savoury pastries ▪ Desserts



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10. THE INTERPLAY OF FLAVOURS IN THE PLANT-BASED CUISINE

As a chef, one is expected to be an expert on all things delicious. But have you ever asked yourself how taste is perceived from a physiological and psychological perspective, and why some dishes and combinations always fit together perfectly, while others just don't? There are several answers to that question.

First of all, the tension between the different flavours, spices, and seasonings, as well as consistency and temperature, play a central role in our taste experience. Another element is our taste preferences, which are based on our personal experience, emotions, and repetition. Just think of your grandma's pies or the kind of snacks you loved to eat as a child. The last, but by no means least, factor is the evolution of the human species as a whole – historically, we developed a preference for high-calorie, dense, fatty, sweet, and smoked foods because they were a rare occurrence, while low-calorie fibrous plants were more easily available. All of these factors need to be considered when cooking plant-based cuisine if you want to impress your customers.

Roasting aromas

In order to create appealing and nostalgically familiar tastes, it is important to generate hearty roasting aromas with the help of different preparation techniques. Roasting aromas add value to many dishes and also enhance other flavours. However, many chefs worry that plant-based dishes won't contain any hearty aromas. But what makes a dish hearty? Since the savoury taste is commonly found in dishes with meat, there is a strong association between the two – but this is misguided. Roasted aromas can be produced with both animal- and plant-based foods alike. The simplest way to create a smoked flavour is by briefly heating up a food and an oil at a high temperature. A non-enzymatic tanning reaction (known as the Maillard reaction) is triggered, influencing both the colour and taste of an ingredient. This is how the hearty roasting notes are created when barbecuing, for instance, which is where the connection to animal-based products mostly stems from. A dark gravy that tastes strong and hearty can be prepared with plant ingredients simply by applying controlled frying, seasoning, or deglazing. The rich taste of such sauces will win over even the most conservative meat lover without them even noticing the absence of animal-based products. This insight is essential for chefs who have not yet tackled plant-based cooking.

Umami - delicious heartiness

Until a few years ago, umami was a relatively obscure culinary term, but today it enjoys ever-increasing popularity. It describes a spicy, hearty taste that is essential to plant-based cooking. Umami is naturally present in foods such as smoked paprika powder, miso paste, rice vinegar, tomatoes (especially dried), and dried mushrooms. The cooking techniques which bring out the umami taste in a dish are, above all, stewing and roasting.

Of course, it's not only the umami taste that is relevant. The balance of all five core flavours (umami, sweet, sour, salty, and bitter) must be aspired to. Of course, not every dish or component needs to provide the whole range of tastes at once.

Consistency and temperature

Another way to make a dish more appealing is the interplay of different consistencies and temperatures. In addition, a diversity of ingredients also improves the quality of a dish.

	Tips	Example
Temperature	Serve cold components together with warm and lukewarm ingredients.	<ul style="list-style-type: none"> ▪ Cold ice-cream with warm sauce and berries served at room temperature
Consistency/ texture	Combine soft, creamy ingredients with crunchy components.	<ul style="list-style-type: none"> ▪ Nuts and seeds as topping for a salad ▪ Creamy desserts with brittle ▪ Pasta al dente with creamy sauce ▪ Wok stir-fry vegetables with rice
Diversity	To expand the taste experience, experiment with food from different food groups.	<ul style="list-style-type: none"> ▪ Corn tortilla with kidney beans, roasted tofu, plant-based mayonnaise, spicy salsa sauce, roasted coconut crisps, fried vegetables

ABOUT SEBASTIAN COPIEN

Sebastian Copien is a German bestselling cookbook author and chef and grows his own vegetables close to his cooking school & event location nearby Munich. In addition to plant-based cooking classes & fine dining events, he is the founder of VEGAN MASTERCLASS - Europe's largest online cooking school with 10+ Teachers & 600+ video lessons.



www.sebastian-copien.de
<https://vegan-masterclass.de/>

11. HOW TO: PLANT-BASED MEALS

BREAKFAST

Scrambled Tofu Recipe

10 Servings

600 g	Plain tofu
300 g	Silken tofu
35 ml	Canola oil
35 g	Onion
15 ml	Soya sauce
To taste	Turmeric, black salt
To taste	Chives
To taste	Paprika, salt, pepper



Preparation

1. Roughly crumble plain tofu with a fork until you get a consistency similar to scrambled eggs.
2. Sauté onions until transparent, deglaze with soya sauce, and add the crumbled tofu.
3. Generously season with salt and pepper. Gradually add turmeric until the desired color is reached (exercise caution here – turmeric is potent in both colour and flavour)
4. Mix the silken tofu in with the fried scramble and optionally adjust seasoning.
5. Serve sprinkled with chives.
6. **Tip:** If you prefer your 'egg' a little more aromatic, you can replace some of the plain tofu with smoked tofu or just add some small cubes as bacon alternatives.

Benefits of this dish

Tofu is rich in protein, calcium, and iron, while containing less dietary fat, which makes it particularly easy to digest.

Kala namak, also known as black salt, originally comes from Southeast Asia and gives dishes the sulphurous taste that is characteristic of eggs.

Turmeric is known for its multiple health benefits and is responsible for the vibrant yellow colour of this dish. Don't overdo it though, because the taste can become bitter.

Breakfast: Good to Know

Plant milk products

Plant milks not only offer more variety – they are also better for our environment. Each type of plant milk has its own individual taste, and everyone can find a personal favourite. Yoghurt is also an essential part of breakfast for many, and plant-based varieties can be eaten with fruit, nuts, muesli, or by themselves, just as with cow's milk yoghurt.

Is bread vegan?

If you offer a plant-based sandwich or a breakfast buffet, don't forget to check whether the bread itself contains no animal ingredients. Most bread is plant-based, but some (especially soft varieties) can contain animal-based products such as milk and the flour-treatment agent cysteine.

Margarine instead of butter?

Margarine is cheaper, cholesterol-free, and more environmentally friendly than butter. But beware – not every margarine is plant-based. Make sure to ask your supplier or use margarines that have a vegan label. There are also plenty of varieties without palm oil on the market.



LUNCH

Vegetable paella with chickpeas and roasted peanuts

10 Servings

500 g	Parboiled rice
160 g	Unsalted peanuts
1	Onion
2	Cloves of garlic
400 g	Carrots
500 g	Kohlrabi
2	Red bell peppers
6 tbsp	Olive oil
2 tsp	Paprika powder
2 tsp	Caraway
1 tsp	Turmeric
1000 ml	Vegetable stock
2 tsp	Tomato Puree
400 g	Chickpeas
200 g	Green peas
½ tsp	Salt and pepper
10g	Chopped parsley



Preparation

1. Precook the rice for 10 minutes.
2. Roast the unsalted peanuts in a pan.
3. Peel and chop the garlic cloves. Then peel and cut the onions, kohlrabi, and carrots into small cubes and the red bell pepper into strips.
4. Heat the olive oil and roast the onions and garlic until browned. Add the paprika powder and the cumin. Then add the vegetables, and sauté briefly.
5. Add the vegetable stock and rice and cook for 15 minutes until the rice is cooked.
6. Add tomato puree, chickpeas, and green peas. Finally season with salt, pepper, and chopped parsley.

Benefits of this dish

Due to their high protein and fibre content, legumes have blood-sugar-regulating effects and reduce the risk of heart attacks and strokes.²⁸

Anyone who wants to follow a healthy and balanced diet should eat a lot of fruit and vegetables. However, the extent to which nutrients are absorbed by the body depends on the cooking method. Some vitamins and minerals only become optimally bioavailable (more effectively absorbed) when cooked. Carrots, for example, contain the phytochemical beta-carotene, the precursor of vitamin A. When cooked, the cell walls of the carrot swell, allowing the beta-carotene to be more easily absorbed by the body.

Lunch: Good to know

Meat alternatives:

It is easy to prepare well-loved meat-heavy dishes using meat alternatives such as soya or seitan. For customers who are sceptical of convenience products, it is possible to replace meat with tofu, beans, lentils, or legumes, for example, in a lentil bolognese.

New stars on the plate: Vegetables

Vegetables are no longer background players but are increasingly moving back to the centre of the plate. Local and seasonal vegetables will be particularly appreciated by young and/or health-conscious customers.

Whole grain products

Couscous, quinoa, buckwheat, and spelt are all grains that can be used to prepare meat alternatives in the form of patties or 'meatballs.' Grains provide valuable fibre, protein, and minerals.

Toppings packed with healthy nutrients

Nuts, seeds, and grains can be used as a topping for sweet and savoury dishes alike. Not only do they provide healthy unsaturated fats, but they are also good sources of protein, as well as fat-soluble vitamins such as vitamin E, and minerals such as zinc and magnesium.

DESSERT

Basic cake (for one standard baking tray)

Dough

500 g	Flour
250 g	Sugar
350 ml	Soya milk
200 ml	Plant oil
3½ tsp	Baking powder
½	Vanilla pod
1 pinch	Salt
½	Lemon, juice and peel

Topping

250 gr	Flour
125 gr	Margarine
125 gr	Sugar
1 pinch	Salt



Preparation

1. Mix all the dough ingredients to form a smooth mixture and pour into a cake tin.
2. Knead all the topping ingredients into a crumbled mixture.
3. Cover the cake with fruit, spread the crumble topping over the top of the cake
4. Bake at 160°C in a convection oven for 20-30 minutes, depending on the topping.

Tips:

- Add slices of apple or seasonal or frozen fruit to the cake mixture.
- Poppy seeds, nuts, lemon slices or chocolate can also be added to the topping mixture.
- Muffin moulds can be used to make smaller units.

Dessert: Good to know

Food Intolerances:

Traditionally made pastries, cakes, and biscuits are not an option for many people, including those who suffer from gluten sensitivity, egg or lactose intolerance, diabetes, or people who avoid dietary cholesterol for health reasons. Plant-based pastries are in no way inferior to conventional ones when it comes to taste. Most types of dough, as well as fillings and toppings, can be prepared in a plant-based form without any extra effort – it usually comes down to just substituting one or two ingredients.

ON THE SIDE

Mayo

8 Servings

400 ml	Unsweetened soya milk
2 tbsp	Mustard
To taste	Salt, pepper, lemon juice
1000 ml	Oil

Preparation

1. Mix all the ingredients in a blender
2. Slowly add the oil while mixing, until the mayo is firm
3. Store and use just like conventional mayonnaise



On the side: Good to Know

Climate-friendly option: By replacing the egg with soya milk in this mayonnaise recipe, up to 70% of greenhouse gas emissions can be avoided. There is no difference in the taste, and plant-based mayonnaise can be used in exactly the same way as its egg-based counterpart.

Choosing the right ingredients: For best results, choose unsweetened soya milk with high lecithin content, for example, Alpro Original. Cool the soya milk well, beforehand. Canola or rapeseed oil are most suited for this recipe as they do not have a strong flavour.

Sweetening of dips and dressings: Honey is not consumed by vegans and can be easily replaced with agave syrup, maple syrup, date syrup, or apple syrup for sweetness. The same alternatives can be used in salad dressings that require honey.

Did you know?: Balsamic vinegar dressing is vegan

TO GO

General Tao tofu wrap

5 Servings

5	Tortilla wraps
75 ml	Soya sauce
75ml	Rice vinegar
1 tsp	Sambal oelek
1 tbsp	Tomato paste
100 g	Starch flour
125 g	Sugar
150 ml	Vegetable broth
1 kg	Tofu
100 ml	Oil
2	Garlic cloves
10 g	Ginger
5	Onions
1	Sweet potato
200 g	Mixed greens
200 g	Baby spinach

Preparation

1. Mix soya sauce, rice vinegar, sambal oelek, tomato paste, and 1 tbs of starch flour in a blender and set aside.
2. Cut the tofu into pieces. Roll each piece in the remaining starch flour and fry on both sides until golden-brown.
3. At the same time, bake the peeled-and-sliced sweet potato in an oven at about 200 C.
4. Finely chop the garlic, onion, and ginger and fry in a separate pan with a little bit of oil. Add the sauce, lower the heat, and slowly mix in the tofu pieces.
5. Now roll all of the ingredients (tofu stir-fry, sweet potato, mixed greens and spinach) into the tortilla wraps and serve.

Benefits of this dish

Ginger is rich in vitamin C and also contains magnesium, iron, calcium, potassium, sodium, and phosphorus. It also contains pungent substances that stimulate blood circulation.



To go: Good to Know

Bread-based snacks

Plant-based cuisine offers plenty of opportunities for delicious bread-based snacks. A sandwich with tapenade and grilled vegetables is a popular classic in plant-based kitchens. Guacamole, hummus, and pesto can also be used as spreads for sandwiches and wraps. For those who prefer sweet snacks, nut butters and jam are usually 100% vegan. Some brands also offer plant-based chocolate-and-hazelnut spread.



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12. PROVEG & WHAT WE CAN OFFER

OUR SERVICES

CONSULTING

Our consulting services range from sustainability consulting and support for effective guest communication to a comprehensive package of marketing and campaign ideas. By analysing your target market, we lay the foundation for the development of a coherent framework of plant-based offerings for your company. As such, we support you in developing a diverse and varied menu, including vegetarian and vegan/plant-based menu lines.



CONNECTING FOOD SERVICES SUPPLIERS TO MANUFACTURERS

In order to facilitate the introduction of plant-based dishes into your menu line, we establish contact with reliable companies that bulk produce plant-based ingredients and semi-finished products. Products range from egg and milk alternatives (such as plant-based yoghurt, cream, and cheese) to meat alternatives and convenience products.



CUSTOMERS & PARTNERS

ProVeg Food Services offers a rich source of ideas, an established network of food producers, and pioneering sustainable food concepts. Our customers and partners include international catering companies, canteens, and student organisations, as well as catering chains.



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