

Unit 1.1.1

Food Systems, Food Products and Food Practices

Key Knowledge and Key Skills

Key Knowledge 1.1.1

The factors influencing the emergence of different food systems, food products and food practices around the world.

Key Skills 1.1.1

Explain factors that have influenced the emergence of distinctive food cultures and cuisines throughout the world.

Key Skills 1.1.5

Identify foods that can be traced back to early cultures and through practical activities demonstrate, observe and critique their uses and adaptations in contemporary recipes.

Key Skills 1.1.6

Undertake practical activities to analyse the origins and cultural roles of food.

VCE Food Studies Study Design p. 14 and 15, Extracts from the VCE Food Studies Study Design (2023-2027) reproduced by permission; © VCAA. VCE is a registered trademark of the VCAA. The VCAA does not endorse or make any warranties regarding this study resource. Current VCE Study Designs and related content can be accessed directly at www.vcaa.vic.edu.au. Readers are also advised to check for updates and amendments to VCE Study Designs on the VCAA website and via the VCAA Bulletin and the VCAA Notices to Schools.

Key Terms and Definitions

Consumption refers to the act of eating food.

Distribution involves the transportation, storage, and sales of food. A **food commodity** is an agricultural product or processed item that can be bought, sold, and distributed for human consumption.

Food preservation includes a range of practices applied to food to prevent the growth of microorganisms that can spoil food. The purpose of food preservation is to extend the shelf-life of food.

A **food system** is a term used to describe the activities that food goes through from its place of origin until it is an edible food product.

Precipitation is the term used to describe any liquid or frozen water that is released back to the Earth.

Primary production refers to growing and harvesting crops and raising animals. It occurs when raw materials are converted into food commodities.

Processing is often referred to as secondary processing. This involves changing the state of foods produced during primary production into other products.

Trade occurs when people exchange goods and services.

Waste management involves reducing the amount of wastage produced during production, processing, distribution, and consumption.

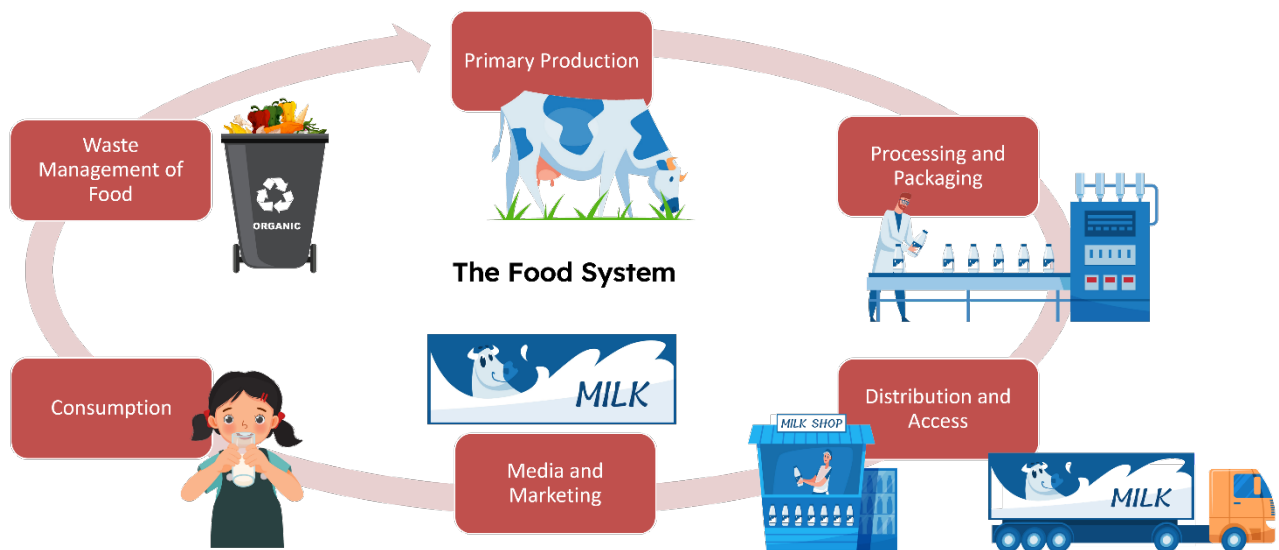
The Food System

Humans have been finding, growing, harvesting, preparing, cooking, transporting, and ultimately, eating food for a long time. The process whereby people acquire their food through to its disposal is called a food system. Food systems were simple when people first foraged and hunted for food. They gradually became more complicated with the onset of agriculture and the domestication of crops and animals. Nowadays, our food systems tend to be highly complex and dynamic. Food is now grown in different environments and distributed to processing facilities, factories, warehouses, and retailers before it reaches the food consumer, who then disposes of it.

A **food system** includes all the processes and activities that turn a potentially edible item into food for human populations. It is often described as our food's process to get from the 'farm to the fork.' However, it is a far more complex process that includes:

1. primary production;
2. processing and packaging;
3. distribution and access;
4. media and marketing;
5. consumption; and
6. waste management of food.

A food system is the sum of all of these interrelated factors and how they work with each other.



Components of the Food System

Primary Production

Primary production refers to food production where crops are grown and harvested and animals are raised and slaughtered. During this stage, raw materials are converted into basic food commodities. Types of primary production that occurred in very early times may have included catching fish, collecting eggs, milling wheat into flour, and foraging for mushrooms. People gradually began breeding plants and animals with superior qualities as time continued. Nowadays, primary production has emerged as a highly advanced industry where drones, gene editing, and even 3D printing are used to produce raw materials.



Wheat arowina.



Wheat milling.



Cows being milked.



Chickens in a barn.

Processing and Packaging

Processing is often referred to as secondary processing. This involves changing the state of foods produced during primary production into other products. In earlier times, food may have been processed by tearing or cutting and eventually included cooking, curdling and pressing, curing, drying, fermentation, pickling, salting, and smoking. Nowadays, the processing techniques can range from simple acts such as slicing through to more complex processing techniques.

Initially, humans likely packaged food using skins of animals, bark, leaves, and even hard empty nut and fruit shells. Over time, people began to package food in paper, cardboard, and plastic. Nowadays, more complex and even digitalised packaging is used.



Meal preparation.



Packaging food.



Making bread at a factory.



Packaging bread.

Distribution and Access

Distribution involves the transportation, storage, and sales of food. Throughout time, people have distributed food. Earlier societies may have shared or swapped food with other groups of people living near them. The emergence of today's food system has resulted in increased access to a variety of food, enabling food to be distributed throughout the world in minimal time and with barely any deterioration in quality.

Access refers to how and where we get our food from. Nowadays, many people buy food from cafes, convenience stores, restaurants, and supermarkets. Growing food and buying food directly from wholesalers and farmers' markets are also popular options for people.



Buying food at a bakery.



Grocery deliveries.



Food transportation.



Drones delivering food.

Media and Marketing

Food marketing occurs when someone promotes the sale of food products or food services. It is believed the first form of marketing was discovered on clay tablets in 3000 BCE. Nowadays, a range of media is used to market food, including billboards, magazines, newspapers, radio, social media, and television.



Marketing on billboards.



Marketing on social media.

Consumption

Consumption refers to the act of eating food. Consumption of food can occur anywhere and everywhere. In early societies, food was acquired and produced close to home, resulting in consumption soon after sourcing food. However, this is not the case today. Some of the food that we consume or make today originated in other locations.



Eating food at home.



Eating food in a car.

Waste Management

Waste management involves reducing the amount of wastage produced during production, processing, distribution, and consumption. When food and packaging are lost or wasted, all the resources used to produce the food, the water, land, energy, and labour go to waste.

Many early civilisations practiced some form of waste management. This may have involved:

- eating or using all parts of an animal, including components such as the eyes, extremities, fur, and skin;
- composting or spreading manure over fertile ground;
- feeding food waste to animals; and
- adding plant food waste to the soil to improve fertility.

Unfortunately, people have not always disposed of waste thoughtfully. Nowadays, around 30% of all food produced is not consumed and therefore wasted.

Food Products

A food product refers to any substance that can be used or prepared for use as food. A variety of foods were produced or sourced throughout time.

Types of Food Products

Grain (cereal) Foods

Cereal grains are the seeds that come from grasses. In early societies, people consumed different wheat varieties such as einkorn, emmer, kamut, and spelt. Other ancient grains include barley, amaranth, barley, buckwheat, chia, millet, oats, quinoa, sorghum, and teff.

Fruits

Fruits come from the flowering part of a plant and contain seeds. Previously, the types of fruits available depended on the season; certain fruits appeared on trees or shrubs at certain times of the year.

Lean Meats and Poultry, Fish, Eggs, Tofu, Nuts and Seeds

Meat refers to the flesh of any animal that humans consume. A variety of meat has been eaten over the years. The meat consumed in early civilisations varied significantly. Some people's diets consisted of insects, small and large animals, and huge mammoths.

A variety of eggs have been consumed throughout time. Historians believe that humans originally sourced and ate eggs from the nests of wild birds.

Nuts and seeds contain a range of valuable nutrients and have been used as a source of energy and protein by humans for a very long time.

Milk and Milk Products

Milk is the liquid produced by the mammary glands of mammals and has been obtained from a diverse range of animals such as buffalo, goats, sheep, and cows throughout time.

Vegetables, Legumes, and Beans

Vegetables can be harvested from different parts of a plant: flowers, leaves, roots, seeds, stems, shoots, and tubers. Legumes are a type of vegetable. Beans, peas, and lentils are all types of legumes. The vegetables consumed in early civilisations differed from region to region due to varying climates.

Food Practices

A food practice is described as any activity where food is involved. Such activities include food preparation, sharing food, and even cleaning up after food has been served.

Some of the following food practices related to the sharing and serving of food have emerged over time:

- serving elders first;
- sitting on the floor to eat;

- slurping in appreciation of a meal; and
- using the right hand to eat with.

Other food practices related to the food preparation of food that have emerged over time include curdling and pressing to make cheese and milling of grains to make flour.

Methods of food preservation used throughout history include drying, fermentation, freezing, marinating, pickling, salting, and smoking.

Factors Influencing the Emergence of Different Food Systems

Various factors and developments have influenced the emergence of different food systems over time and throughout the world.

Economic Factors

Local, Regional, and Global Trade (Globalisation)

Globalisation refers to the spread of people, products, information, ideas, and jobs across cultures, countries, and international borders. Trade occurs when people exchange goods and services. Globalisation and trade have contributed significantly to the emergence of different food systems.

Environmental Factors

Climate

Climate refers to the weather conditions in a particular area over a long period of time. It refers to the average temperature, humidity, atmospheric pressure, wind, and rainfall over about 30 years. The type of climate in a region impacts the kind of food that can be grown or raised in a given area. For example, some crops or animals are best grown or raised in warmer temperatures, while others are suited to colder climates. This results in certain foods being available at different times of the year due to the climate in different areas.

Climate affects local cuisine by determining the duration of a growing season and how many growing seasons there are each year. A region with a 'temperate climate' has a moderate amount of rainfall throughout the year, along with mild to warm summers and cool to cold winters. This kind of climate results in longer growing seasons. Crops that take longer to grow can be planted or several shorter cycles of a crop can be planted each year. Places like East Asia, Hawaii, and northern and southern New South Wales have temperate climates. Macadamia nuts are indigenous to Australia and grow well in the rich soils and high rainfall of northern New South Wales and southern Queensland. Hawaii has a similar climate and has become a significant producer of macadamias.

In countries with hot summers and very cold winters, certain foods can only be grown at particular times of the year and may have a short growing season.

Weather

The terms 'weather' and 'climate' mean different things. Weather can change almost instantly, and it can only be used to describe the climate of a region when it is consistent over several decades. Weather is affected by outdoor temperatures and the amount of precipitation and plays a significant role in what you eat and how much you eat. Weather conditions such as floods and cyclones can have a disastrous impact on agriculture.

Temperatures

When outdoor temperatures are warmer, a human's metabolism slows down and the body does not have to work hard to keep warm. Therefore, the body requires less energy and people tend to eat lighter meals with fewer kilojoules. When outdoor temperatures are cooler, people may need to consume foods with more energy to keep warm and assist with body temperature regulation. Cuisine from warmer countries is also often prepared quickly and in smaller portion sizes than in colder countries. The food is usually light to eat because cooking in hot weather can be challenging and unpleasant.

People living in hot countries are also more likely to eat spicy foods than those living in cooler countries. Eating spicy foods raises a person's body temperature and makes them perspire. This sweat cools the body down in hot weather. Traditionally, people were less likely to eat hot and spicy foods in places where it is cold and they are trying to keep warm.

Precipitation

Precipitation is the term used to describe any liquid or frozen water that is released back to the Earth as rain, sleet, hail, or snow. The amount of precipitation in a given area can significantly influence the food produced and, ultimately, the region's food culture.

Rice crops thrive in areas with significant precipitation. Around 1000–3000 mm of rain falls in East Asia each year. Rice producers can grow two or three rice crops every year. Consequently, about 90% of global rice production comes from Asia. The amount of precipitation in Asia has resulted in rice being a common ingredient in the area's cuisine and a major commodity to export.

Regions with little precipitation have a drier climate. These regions are more suitable for raising crops that need little water to grow. Maize (a type of corn), hot peppers, and squashes grow well in India and Mexico's drier climates. Goats also survive well in dry conditions. They are a popular meat to eat in warmer climates such as Africa, South America, Central America, The Middle East, and India.

Location and Topography

The term topography describes the physical features on the surface in a country or region. Examples of topography include cities, dams, hills, lakes, mountains, oceans, rivers and even roads. The height or elevation of mountains and other objects is also considered a part of the topography. The term landscape is similar to topography, it merely refers to what someone can see in a particular area.

Different countries worldwide have diverse landscapes, which impacts the type of food they can grow. For example, countries such as China, Indonesia, Japan, and the Phillipines are bound by sea and consume a significant amount of seafood. In contrast, Himalayan cuisine contains barley, goats' cheese, goat, mutton, noodles, and yak. It is very cold in the Himalayas and there are many mountains. Barley is a grain crop that tolerates cold conditions and high altitudes. Similarly, goats and yaks are animals that cope well in cold and mountainous situations. Mutton are older sheep, and their wool keeps them warm in cold conditions.

The topography of an area affects soil fertility. In some areas of Australia, fertile soils support the growth of vegetables and enable animals like sheep to be grazed. However, most of the country is dry and barren and unsuitable for crops or livestock. The topography of Australia determines the type of food consumed. Lamb can be grazed in the fertile regions, while cattle can be raised in the outback desert areas. As a result, both lamb and beef are a large part of our Australian cuisine.

In hilly and mountainous countries such as Vietnam and the Philippines, rice is grown using terrace farming, where tiered platforms are built into the slopes. Consequently, rice is a huge contributor to these countries' cuisines.

The resources available to the immediate area of ancient farmers influenced the crops and animals that they farmed. Some communities have passed on the traditions of planting crops and raising animals, along with knowledge of the land, to their descendants. This knowledge and experience tends to influence the food habits of people. Nowadays, food from all different countries is grown worldwide regardless of whether the food originated in that country or not – one of the main factors influencing this is the geography of the land.

The images below provide some examples of the environmental factors that influence the emergence of different food systems.



Climate: Macadamia nuts grow where the temperature does not get above 40°C.



Weather: Rainfall cause floods which impacts agriculture.



Outdoor Temperatures: The temperature in a region influences the type of food people eat..



Precipitation: Wheat can be grown in areas where there is higher rainfall.



Location and topography: Goats are suitable for raising in mountainous areas.

Historical Factors

A range of historical factors have influenced the emergence of food systems worldwide.

Colonialism

Colonisation occurs when one country acquires full or partial control over another country. The main countries responsible for colonisation include Germany, Portugal, Spain, the Netherlands, the United States and the United Kingdom. Colonisation has occurred throughout the world for centuries and has had enormous impacts on food systems worldwide.

The French colonised vast regions of South East Asia. For this reason, a blend of these two cultures can be found in the cuisine of Vietnam and numerous other Asian countries. The Vietnamese roll uses a French baguette and a range of Vietnamese vegetables and herbs as a filling. Likewise, the Dutch influenced the cuisine of Indonesia as they occupied the country from the 1600s to 1949. The Klappertart is an iconic Indonesian tart that brings together both Dutch and Indonesian cuisine. It contains butter, flour, sugar, milk, and the juice and flesh of coconuts.

Exploration

Explorers have long been responsible for bringing back foods and plants to their home countries from their travels. They have also been responsible for introducing new foods to the places they visited on their travels.

Watch this video to learn about Marco Polo and his influence on food systems: <https://youtu.be/0KTMi9I-bu0>

Conflict and Wars

Political acts such as wars have played a significant role in the cuisine available in different countries. Conflict can cause food shortages which may leave people without a source of food. It can result in people sharing food products as one country invades another. It could also result in new preservation techniques, and recipes being invented so that food can be sent to soldiers.

Examples of this include:

- Paella, a classic dish in Spain. The saffron and rice in this dish were introduced to the Spaniards by Muslims who invaded Spain around 710 A.D.
- The ANZAC biscuit is considered an Australian food icon. These biscuits were first called 'soldiers biscuits' as they were sent to troops overseas because they would not spoil.
- During World War Two, canning became a popular method of food preservation in the United States, Australia, and the United Kingdom. The soldiers fighting overseas needed food supplies and canning was deemed the best way to send them nourishing food. Canned food is now considered a staple food in these countries.

Watch this video to learn about how the Crusades influenced food systems: https://youtu.be/N-IQp4_ci5g

Social Factors

Social factors are things that affect someone's lifestyle.

Culture

The food habits of a group of people can vary significantly from people from other areas. The food people choose to eat usually reflects the kinds of foods available in their region and their ancestral history. People generally eat what their ancestors ate. When two or more cultures exist close together, their cuisine often becomes a mix of both cultures. For these reasons, culture can significantly impact the foods available in the food system and emerging food systems.

Social Status and Hierarchy

The quantity and quality of food that people consume vary according to a person's social status or position in the social hierarchy. High social standing or class can result in people having more money and access to food choices or being able to access food before it is distributed to others.

Religion

Religion can have a significant influence on the emergence of different food systems. It is an essential factor in many people's lives around the world. Many faiths have dietary rules that outline what their followers can and cannot consume. Many religions also have a particular food or food rituals associated with their special celebrations, festivals, and traditions. This has a significant impact on the food they eat. Religion is an essential

factor in many people's lives around the world. Many faiths have dietary rules that outline what their followers can and cannot consume. Many religions also have a particular food or food rituals associated with their special celebrations, festivals, and traditions. This has a significant impact on the food they eat.

Buddhism

Around 5 million people follow the Buddhist faith, making it one of the most prominent religions in many Asian countries such as China, Japan, Thailand, and Vietnam. One of the teachings of Buddhism emphasises no killing and respect for life. For this reason, some monks and believers follow a strict vegetarian diet; others choose to be vegetarian only when celebrating. Theravada monks in Sri Lanka are not entirely vegetarians. Offering food to monks is an honoured tradition in the Buddhist faith. Monks must eat the foods given to them, even if they contain meat.

Christianity

The Christian religion is divided into three branches: Catholic, Protestant and Orthodox. Different Christian faiths have different dietary laws. Their various traditions related to food often include fasting and feasts.

Some foods have special biblical meanings and have become symbols of the Christian faith. It is said that Jesus shared bread and wine with his disciples during the Last Supper. He asked his disciples to remember him by eating bread, signifying his body, and drinking wine, representing his blood. Christians often partake in a similar ritual, known as communion. They are given a sip of wine and a portion of bread as a symbolic reminder that Christ died on the cross for them.

Fish is another symbol embedded in the Christian religion. In ancient times, just after Christ's passing, secret meeting places were identified by Christians with fish symbols, a tradition that continues today. The Bible even tells of a story where Jesus fed 5000 people with just two fish and five loaves of bread. Fish is also readily eaten during Lent (the 40 days leading up to Easter) when many Christians abstain from eating meat. Italian Christians often celebrate Christmas Eve with a Feast of the Seven Fishes, where various types of fish are served.

Seventh-day Adventists are a Protestant denomination. They follow a lacto-vegetarian diet, where eating a wide variety of plant foods, including fruits, grains, legumes, nuts, and seeds, is encouraged. If they eat eggs, meat, or dairy products, then it is preferred that they are low-fat versions and consumed in moderation. This is because they regard their bodies as a temple and promote health.

Watch this video about the history of Easter Eggs: <https://youtu.be/eOa5hI4IMvc>

Watch this video to discover more about Lent: <https://youtu.be/-4ZuiMdCH7w>

Hindu

Hinduism is believed to be the world's oldest religion, with 95% of Hindus living in India! People of the Hindu faith believe that all creatures are worthy of respect. Due to this belief, the Hindu diet discourages the consumption of animal meat. They believe that cows represent Mother Earth because cows milk nourishes all creatures. In this culture, cows are considered sacred and a symbol of life, so they are honoured, protected, and respected.

Strict Hindus are unlikely to consume eggs, fish, meat, or poultry. Other Hindus will follow their own version of a Hindu diet, so some may eat meat. In general, Hindus are mostly lacto-vegetarian, which means they consume milk and milk products but not meat.



Sacred clay statue of a cow at a Hindu temple.

Islam

People who practice the Islam faith by following the one God, Allah, are called Muslims. About 25% of the world's population are Muslim. Indonesia has the biggest Muslim population in the world. Some African and Middle East nations also have a large Muslim population.

Islamic laws state that Muslims can only eat 'halal' food and they are not permitted to eat 'haram' or forbidden food. Forbidden food includes meat from pigs, alcohol, or any meat that has not been slaughtered and prepared by halal means. Traditional Muslim recipes include wheat, barley, dates, figs, and lamb – all these crops were cultivated in the Middle East during the early agricultural times.

Ramadan is a very important religious occasion in the ninth lunar month of each year. During this time, Muslims fast from dawn to dusk to demonstrate their devotion and obedience to Allah. They pray and abstain from things they adore to become closer to God. 'Eid al-Fitr', which marks the end of Ramadan, is another significant Muslim celebration. Various foods are served during the celebration of Eid al-Fitr. The food served mainly depends on the food culture to which the Muslims belong.

Watch this video to find out more about Ramadan and Eid al-Fitr.

<https://youtu.be/6OF4HEGNBRQ>

Watch this video to find out about breaking the daily fasts of iftar.

https://youtu.be/gd0CSEi67_s

Judaism

The term 'kosher' on a food package means that the food has been produced according to Jewish dietary rules. These dietary rules state that:

- Meat can only be eaten if it comes from animals that chew their cud, have cloven hooves, and eat grass.
- Meat must be slaughtered in a particular way.
- Seafood can only be consumed if it comes from a species with both fins and scales.
- Meat and dairy cannot be consumed together.

Nowadays, not all Jewish people follow these rules; however, a certain percentage of their population still does.

The Jewish population celebrates many religious events, rites of passage, and traditions with family and friends. These celebrations involve preparing and serving large meals. Sweet honey cake is served at Rosh Hashanah, crispy potato latkes at Hanukkah, and matzah balls at Passover. Kugel, a casserole made from noodles or potatoes, is served at some festive meals.

Watch this video to learn more about popular Jewish foods and traditions:

<https://www.youtube.com/watch?v=qsOjuoqPKZs>

Sikh

Sikhism is different from Hinduism. Sikhs worship one God, whereas Hindus worship many gods. Sikhism is not as old as Hinduism; it is a relatively 'young' religion. The fundamental practices of the Sikhs include tolerance, peace, and love. There are many similarities and differences between the two religions. In terms of food, Sikh are free to choose what they want to eat, but many choose to be vegetarian.

Langar is the term used to describe a communal meal, which is part of the Sikh tradition. Anyone can participate in Langar regardless of religion or social status. During this meal, everyone sits on the floor at an equal level and eats the same food. The Sikh community is becoming recognised worldwide for its contribution to preparing and serving Langar-style meals to the needy.

Watch this video to find out more about the communal meal of Langar:

<https://www.youtube.com/watch?v=9iuMW3710bE>

Watch this video to find out more about how the Sikh community helps others: <https://youtu.be/xkTbFfOGkFA>



The breaking of bread in the Christian faith.



An offering to the Gods in the Hindu faith.



The consumption of dates symbolising power, triumph, abundance and faith.

Technological Factors

Throughout time new technology and innovation have impacted the emergence of different food systems.

In ancient times, technology may have involved:

- building a hearth (fireplace) to control heat;
- discovering fire and using a stick to hold meat over a fire;
- making simple tools from bone, stones, and wood into items such as axes, spears, knives, bows and arrows; and
- sharpening a rock or a stone to use for cutting or killing animals.

The technology used in food production today includes things such as computerised machinery and digitalised packaging.

References

- Food and Agriculture Organisation of the United Nations. (2022). *The State of Food Security in the World 2020*. Retrieved from Food and Agriculture Organisation of the United Nations:
<https://www.fao.org/3/ca9692en/online/ca9692en.html>
- Jewish Holidays and Food. (2022). *Celebrating Jewish Holidays*. Retrieved from Jewish Holidays and Foo:
<https://jewishfoodexperience.com/celebrating-the-jewish-holidays/>
- Patience, S. (2016, September 19). *Religion and dietary choices*. Retrieved from Independent Nurse:
<https://www.independentnurse.co.uk/clinical-article/religion-and-dietary-choices/145719/>
- Stefon, M. (2022). *Rules and customs in world religions*. Retrieved from Britannica:
<https://www.britannica.com/topic/dietary-law/Hinduism>