

1: The Food Timeline--teacher resources

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Origins of food production in early civilizations. Under what circumstances do anthropologists think people started producing their own food rather than mainly gathering or hunting? There are several theories that have been postulated to explain the emergence of planting and the domestication of animals as opposed to hunting and gathering. Due to this unforeseen change they were forced to choose between moving on to new hunting grounds or attempt to plant crops and domesticate animals. Another theory states that as the human population of a clan or tribal group grew, eventually it would reach a point that could not be sustained by the food that could be hunted and gathered. In order to support a growing population people groups were forced to branch out and begin farming and domesticating animals in addition to continued hunting and gathering efforts. What are some advantages and disadvantages of food producing subsistence patterns? There are many advantages in food producing patterns of civilization. First of all people tend to band together in larger settlements. This makes defense easier as well as increases the ability to work together to solve problems. The more people that are available to help solve a problem, the more potential solutions the civilization would have to work with. Another advantage would be the increase in population. A settled lifestyle would allow for food storage which would lead to a surplus of food. With a surplus of food people could have larger families and still be able to care for and feed them. As people began to settle the increase in food production would lead to a development in trade and businesses. **Solution Summary** This is a discussion of how, when and why people in early civilizations began planting and harvesting food instead of hunting and gathering. Over 1, words of original text including links to informative websites. From ancient Mesopotamia through the Renaissance, individualism was the primary value driving the historical development of Western Civilization. Take a position and discuss the following proposition: Use relevant primary as well as secondary assigned sources for your discussion. Help with a beginning thesis and an outline.

2: Origins of food production in early civilizations.

Origin of Food Production Evidence for the cultivation of rice in the Far East (Thailand), beginning about 8, BP is more controversial, as is the evidence for tropical root crop agriculture in West Africa.

Why did humans start cooking their food? Food historians, archaeologists, and paleontologists do not have an exact answer due to the age of the evidence. They do, however, have theories. While roasting over an open fire appears to be the first method, boiling was not far behind. Whether or not it came as a gastronomic revelation can only be guessed at, but since heat helps to release protein and carbohydrate as well as break down fibre, cooking increases the nutritive value of many foods and makes edible some that would otherwise be inedible. Whatever the case, by all the laws of probability roasting must have been the first method used, its discovery accidental. The concept of roast meat could scarcely have existed without knowledge of cooking, nor the concept of cooking without knowledge of roast meat. A litter of Chinese piglets, some stray sparks from the fire, a dwelling reduced to ashes, and unfamiliar but interesting smell, a crisp and delectable assault on the taste buds. Taken back a few millennia and relocated in Europe this would translate into a piece of mammoth, venison or something of the sort falling in the campfire and having to be left there until the flames died down. But however palatable a sizzling steak in ice-age conditions, the shrinkage that results from direct roasting would scarcely recommend itself to the hard-worked hunter, so that a natural next step, for tough roots. Although the accidental discovery of roasting would have been perfectly feasible in the primitive world, boiling was a more sophisticated proposition. New York] p. This book contains much more information on early cooking techniques than can be paraphrased here. Your librarian will be happy to help you find a copy. The use of fire, extended to food preparation, resulted in a great increase of plant food supply. All of the major domesticated plant foods, such as wheat, barley, rice, millet, rye, and potatoes, require cooking before they are suitable for human consumption. In fact, in a raw state, many plants contain toxic or indigestible substances or antinutrients. But after cooking, many of these undesirable substances are deactivated, neutralized, reduced, or released; and starch and other nutrients in the plants are rendered absorbable by the digestive tract. Thus, the use of fire to cook plant foods doubtless encouraged the domestication of these foods and, thus, was a vitally important factor in human cultural advancement. We can only base conjectures on the customs of existing primitive peoples. Bones and walnut or hazelnut shells have been found on excavated sites, but there is no means of knowing whether they are the remains of cooked meals, the debris of fires lit for heat, or even the remnants of incinerated raw waste matter. An oven could be as simple as a hole in the ground, or a covering of heated stones. However, improved textures and flavours may not have been the reason fire was first controlled. People could have employed fire to keep wild beasts at bay, to trap them, to scare them out or to create open grassland, where tender shoots and leaves would be more accessible. People have long used fire to harden wooden weapons, and to keep warm at night. However, she says, we transform food on a different level. The human species prepares its food by heat. She proposes that the culinary act distinguishes the human species, and is not just a symbol of, but a factor in, that very humanisation. Cooking is highly intentional. Discovery is attributed to happy accident. Boiling was no accident. It was a carefully considered process achieved with tools crafted specifically for the purpose. According to conventional wisdom, prehistoric man went to a good deal of trouble for his boiled dinner. First he dug a large pit in the ground and lined it with flat, overlapping stones to prevent seepage. Then he poured in large quantities of water, presumably transported in skin bags. Other stones were heated in the campfire and manhandled by some unspecified means possibly on the bat-and-ball principle into the water to bring it to a simmer. The food was then added and, while it was cooking, more hot stones were tipped in from time to time to keep the water at the desired temperature. There is no law that says things have to be done the easy way, and the method is still used by modern tribals. Hot water being a rare natural phenomenon, both idea and method would subsequently have to be disseminated by migrating tribes--which could explain why there is no indication of the technique being used before BC. One reason for the anthropological popularity of the pit-boiling theory is the belief that until the advent of pottery, cooking potential was severely restricted; that, lacking containers that were both heat-proof and waterproof,

boiling was impossible except by the pit method. But that is not the case. Several perfectly viable alternative containers have been available for thousands of years, and the idea of boiling could well have been suggested by the fact that when meat or vegetables with a high water content were crammed into one of these containers over the fire, they sweated out an appetizing liquid. In many parts of the world large mollusc or reptile shells were used for cooking in, as they still were on the Amazon in the nineteenth century. In Asia the versatile bamboo supplied hollow sections of stem that could be stoppered with clay and one end, filled with chopped-up raw ingredients and a little liquid, then stoppered again at the other. The method is still used in Indonesia today. In the Tehuacan Valley of Central America, in about 8000 BC, the people who lived in rock shelters and gathered wild maize for their food had already begun to use stone cooking pots. These, once made, were cited in the centre of the hearth and, too heavy to move, left there permanently. Long before the advent of pottery and bronze there was one kind of container that was widely distributed, naturally waterproof, and heatproof enough to be hung over, if not in, the fire. This was an animal stomach. With the advent of cooking, the notion of simmering the contents of the stomach in the stomach-bag itself would emerge quite naturally. By about 13,000 BC leatherworking techniques had improved so much that skins had come to replace many of the older containers. After skins came pottery, which was succeeded by bronze and then iron, from which most cooking pots continued to be made until the twentieth century. Meat was probably boiled first, with the vegetables added later. A basic peasant dish was pottage made from grains, beans, or lentils. A large cauldron could easily hold a pig, which was a desired dish of the Celts. The Egyptians used cauldrons or large straight-sided pots supported on stones, or a tripod set over a pan of glowing charcoal. Westport CT] p. The more migratory tribes possessed only wooden cooking utensils, less fragile, but easier of transportation. They cooked their food in these by throwing into the water, one after the other, heated stones. This gradually heated the water, and caused it to boil sufficiently to satisfy people who were accustomed to partly-cooked food. Informants at Grande River and elsewhere state that boiling was sometimes practiced by placing a bark vessel in direct contact with the fire. They tied the large pieces of bark together at the ends with strips of inner bark, making a dish large enough to hold the meat, with water enough to boil it. This bark kettle was suspended between two sticks over the fire, and before the kettle was burnt through the meat was cooked. Waugh, facsimile edition [University Press of the Pacific: Honolulu HI] p. Most of this information the credible sources your teacher will accept is still contained in books. Did you know Ancient Mesopotamia is also credited for the first written recipes? Some notes to get you started: By the time Sumer was succeeded by Babylon a special delicacy had been discovered that was dispatched to the royal palace by the basketful. Everyday meals probably consisted of barley paste or barleycake, accompanied by onions or a handful of beans and washed down with barley ale, but the fish that swarmed in the rivers of Mesopotamia were a not-too-rare luxury. Over fifty different types are mentioned in texts dating before BC, and although the number of types had diminished in Babylonian times, the fried-fish vendors still did a thriving trade in the narrow, winding streets of Ur. Onions, cucumbers, freshly grilled goat, mutton and pork not yet taboo in the Near East were to be had from other food stalls. Meat was commoner in the cities than in the more sparsely populated countryside, since it spoiled so quickly in the heat, but beef and veal were everywhere popular with people who could afford them. Cattle were not usually slaughtered until the end of their working lives. Probably tenderer and certainly more common was mutton. The incomers who had first put the Sumerian state on its feet were originally sheep herders. This book has much more information than can be transcribed here. Your librarian can help you find a copy. These sources indicate the importance of barley bread, of which many kinds are named, and barley and wheat cakes, and grain and legume soups; of onions, leeks and garlic; of vegetables including chate melon, and of fruits including apple, fig and grape; of honey and cheese; of several culinary herbs; and of butter and vegetable oil. Sumerians drank beer often, wine seldom if at all; wine was better known in northern Mesopotamia and in later times. Animal foods included pork, mutton, beef, fowl including ducks and pigeons, and many kinds of fish. Meats were salted; fruits were conserved in honey; various foods, including apples, were dried. A kind of fermented cause is identified in Akkadian texts. Baltimore] expanded edition p. In Mesopotamia, the chief crop was barley. Rice and corn were unknown, and wheat flourished on a soil less saline than exists in most of Mesopotamia. Thus barley, and the bread baked

from its flour, became the staff of life. Mesopotamian bread was ordinarily coarse, flat, and unleavened, but a more expensive bread could be baked from finer flour. Pieces of just such a bread were Bread could also be enriched with animal and vegetable fat; milk, butter, and cheese; fruit and fruit juice; and sesame seeds The gardens of Mesopotamia, watered by irrigation canals, were lush with fruits and vegetables Among the fruits were apples, apricots, cherries, figs, melons, mulberries, pears, plums, pomegranats, and quinces. The most important fruit crop, especially in southern Mesopotamia, was the date. Rich in sugar and iron, dates were easily preserved. Like barley, the date-palm thrived on relatively saline soil and was one of the first plants farmers domesticated As for vegetables, the onion was king, along with its cousin, garlic. Other vegetables included lettuce, cabbage, and cucumbers; carrots and radishes; beets and turnips; and a variety of legumes, including beans, peas, and chickpeas Curiously, two mainstays of the Mediterranean diet--olives and grapes Coriander, cress, and sumin; fennel, fenugrek, and leek; marjoram, mint, and mustard; rosemary and rue; saffron and thyme

3: NPR Choice page

The origins of animal and plant domestication is considered an important development in human history by anthropologists and the sub-discipline field of archaeology is responsible for collecting the site data to enable study of this social advancement.

In Africa, the acclaimed cradle of the human race, the domestication of plants and animals, the refinement of tools from stone to iron implements, the adaptation of humans to peculiar ecologies across the continent have received admittedly uneven scholarly attention. Scholarly debates have focused on the origins of food crops, the regional varieties of yams, rice, cocoyam and millet, and the adoption of exotic crops such as cassava and maize. Whether domesticated in Africa or adopted from Asia and Latin America, especially in the context of European maritime enterprise and colonization, these crops have been central to the cuisine and diet of African peoples. Trade in raw and processed food crops consequently flourished in local and regional settings. General Overviews Food and food production evolved in specific ecological settings in accordance with seasonal changes, soil conditions, and density of precipitation since the dawn of the previous millennium. Clark provided general overviews of the arable and pastoral economies of Africa in which food production took place. Studies in prehistory have relied on archaeology, linguistics, and botanical sciences to shed light on developments on various crops, plants, birds, and animals as part of the diet and economy of the peoples and regions of Africa. The diversity of food production systems, cuisine, food processing technology and practices, ecology, and local agency is reflected in studies in Jones on cassava, a major staple , Hansen and McMillan food supply, nutrition policy, and agricultural practices in Africa , Harlan indigenous agricultural complexes , Phillipson polycentric origins of food production , Shaw, et al. From Hunters to Farmers: University of California Press, A collection of thirty essays on the prehistory of food and food production in Africa. Has broad regional coverage and charts the transition from hunting and gathering to food production. Hansen, Art, and Della McMillan, eds. Food in Sub-Saharan Africa. Includes chapter by Davis pp. Cambridge University Press, A concise study of savanna, forest-margin and Ethiopian agricultural complexes, diffusion of food crops to and from Africa, and the diversity of indigenous agricultural techniques. Stanford University Press, Contains now-dated statistics of production, consumption, and distribution. Highlights its processing and importance in human and animal diets. A History of African Cuisine. Ohio Africa in World History Series. Ohio University Press, Emphasizes the polycentric origins of food and food production, with differential antiquity of origins. The Archaeology of Africa:

4: List of food origins - Wikipedia

Origins of Food Production Significance Although we often take agriculture for granted, the origin of our dependence on domestic plants and animals is by far the most important economic transition experienced by the genus Homo.

Crops and Ecology Background The preservation of fertility is the first duty of all that live by the land – there is only one rule of good husbandry – leave the land far better than you found it. These are the ecological foundations of our food system. They are also endangered by depletion, disruption, or disease. Finding ways to better preserve the health of agricultural ecosystems is key to the long-term sustainability of our food supply. In North America, for example, only 40 percent of cropland is used to feed people directly; most of the remainder is used to grow feed for animals. Each year Growing Power transforms 22 million pounds of food waste into fertile compost – with a lot of help from earthworms. Far from being lifeless dirt, fertile soil is teeming with organisms that have important roles in agriculture. Bacteria living inside the roots of plants in the legume family, such as beans and clover, extract nitrogen a key nutrient for plants from the atmosphere. Certain species of fungi that grow on the surfaces of roots pictured also help deliver nutrients to plants. Earthworms, meanwhile, help decompose decaying leaves, excrete nutrient-rich castings, and loosen soil by burrowing through it. BMC Bioinformatics, volume , issue 6. Dust storm approaching Stratford, Texas. The Dust Bowl of the mids demonstrated the devastating potential of soil erosion. Eager to cultivate the fertile land of the American Midwest, farmers plowed up prairie grasses with deep root systems that held soil in place. A prolonged drought was followed by high winds, which swept away hundreds of millions of tons of topsoil. Dust storms moved up to miles an hour, choking people and killing livestock in their path. Click images for captions Land, then, is not merely soil; it is a fountain of energy flowing through a circuit of soils, plants, and animals. Far from being lifeless dirt, fertile soil is teeming with organisms, including worms, arthropods, bacteria, fungi, and plant life. The decaying and fully decayed remains of these and other organisms, and their excrement, make up the part of soil called organic matter. The remaining mineral fraction of soil is composed of sand, silt, and clay. Organic matter and the organisms that inhabit it are a large part of what makes soil fertile. Organic matter soaks up water and nutrients like a sponge, helping plant roots to access them. Because soil organic matter helps capture and hold water, it is particularly important during droughts. Organic matter also helps aerate soil, providing roots with oxygen, and it stores carbon that would otherwise contribute to climate change. Building and maintaining healthy soil require care on the part of farmers. Throughout history, farmers have mismanaged this essential resource, sometimes with catastrophic results. Plowing soil and compacting it e. Erosion is particularly damaging because the top layer of soil topsoil is richest in organic matter. Erosion can also contribute to water pollution by transporting pesticides and excess nutrients into nearby streams and rivers. Each plot is between and 1, meters 1 mile in diameter. In these systems, water is pumped from a well in the center of the circle and distributed through a long sprinkler that pivots around a central point. This area draws water from the Ogallala Aquifer, an underground water body that lies beneath portions of eight U. The large sphere over North America represents all the water on earth, including in oceans, rivers, the atmosphere, and living organisms. The remaining liquid fraction is represented by the smaller sphere over Kentucky. Nearly all 99 percent liquid freshwater is below ground. The remaining amount in lakes and rivers, represented by the tiny sphere over Georgia, is responsible for most human water needs. Colorado River at the Mexican border. Effects of freshwater depletion on Mexican farmland. While there have been attempts to fairly allocate water use rights between the U. National Archives and Records Administration. Click images for captions We know the value of water when the well runs dry. This resource is surprisingly scarce: The vast majority 99 percent of freshwater is locked in glaciers, icecaps, or below ground, and is mostly unavailable. The remaining amount – a tiny fraction of all the water on Earth – is responsible for serving most of our water needs. An estimated 17 percent of global agricultural lands are irrigated, and crop irrigation accounts for an estimated 90 percent of global freshwater consumption. The High Plains Aquifer, for example, is an underground freshwater body that lies beneath portions of eight U. Parts of the aquifer have already been drained by as much as 30 percent, in large part for corn – a particularly thirsty

crop, in high demand for cattle feed and biofuels. When a plant disease wiped out this staple crop, the resulting famine—known as the Great Hunger—took an estimated 1 million lives. Illustrated London News, December 22, Beans stored at a seed bank in Colombia. Many useful crop varieties that were developed over centuries are now rarely used in agriculture. Storing these genetic resources can protect them during catastrophic events, such as wars and natural disasters. The Pavlovsk agricultural research station in St. During the German siege of that city then called Leningrad in World War II, at least 12 Russian scientists working at the Pavlovsk station died of starvation rather than eat the edible seeds and tubers stored in the bank. Click images for captions Agrobiodiversity is the variety within and among species involved in food and agriculture. There are roughly 10, known edible plant species in the world. From this vast diversity of food sources, only three—rice, maize, and wheat—provide nearly 60 percent of the calories and protein that people derive from plants. Some crop varieties, for example, are better than others at tolerating droughts or resisting certain pests. These and other traits are particularly important in the face of a rapidly changing climate. Each crop variety also offers unique flavors, textures, and nutritional properties. Many serve medicinal purposes, or have cultural significance to the people who grow and eat them. One coffee plantation in Mexico, for example, is home to as many as different species of birds that help control insect pests and disperse seeds. The frogs in this study were exposed to atrazine, one of the most commonly used herbicides in the world. Atrazine has been shown to affect the sexual development of amphibians—the three large circular objects in this image are egg cells—not something one expects to find in male anatomy. Dated between and His cartoons helped popularize the use of insecticides in American households before their health and ecological effects were widely understood. The Lorax, the Dr. Her book Silent Spring drew public attention to the impact of pesticides on health and ecosystems. Her work has been credited with advancing the global environmental movement. Click images for captions Pesticides are used with the intent of killing a target organism pest, such as an insect, plant, or fungus that interferes with a food crop. Pesticides often have unintended effects on other, non-target organisms. Some pesticides are non-toxic to humans, while others are highly toxic. Some pesticides persist do not break down in the environment, remaining toxic to people and wildlife for many years. People may be exposed to pesticides by breathing or touching them e. Many studies suggest insecticides are contributing to recent and dramatic declines in honey bee populations—a global phenomenon called colony collapse disorder CCD. When this happens, farmers may apply more or different pesticides to achieve the desired result,^{30,31} worsening the potential dangers posed by their use. Refer to Food Safety for more on pesticides in food. Farm worker health A migrant worker carries cucumbers in Blackwater, Virginia. Preparing alachlor, the second most widely used herbicide in the U. Hired farm workers are distinct from farmers, who manage the farm and are usually self-employed. Despite their crucial roles in the U. Most seasonal farm workers are from Mexico or Central America, and at least half who migrate to the U. Nutrient pollution To provide crops with nutrients for growth, farmers often apply fertilizers such as synthetic nitrogen, minerals, animal manure, or human sewage. The use of human and animal excrement as fertilizer is an ancient method of recycling organic matter, transforming waste into food. Nutrient pollution in aquatic ecosystems can stimulate algal blooms—rapid accumulations of algae. After the algae die, bacteria feed on the decomposing remains, using up oxygen from the water. This process can create dead zones—underwater regions where oxygen levels are too low for most plants and animals to survive. Globally, the number of dead zones has roughly doubled every decade since the s. Drinking groundwater contaminated with high levels of nitrate a form of nitrogen, an important crop nutrient has been linked to reproductive problems, diabetes, thyroid conditions, and blue baby syndrome—a potentially fatal condition among infants. People may be exposed to these toxins by fishing or swimming in contaminated waters, or eating contaminated seafood. Exposure may cause neurological impairments, liver damage, stomach illness, skin lesions, and other health problems. The value of phosphorus as an agricultural fertilizer is illustrated by the extraordinary efforts made to obtain it. Deposits of phosphorus-rich bird guano, some up to feet deep, were discovered blanketing islands off the coast of South America. Guano was such a hotly contested commodity that the islands became the epicenter of international conflicts. Click images for captions Some resources, such as fertile soil and fresh water, have always been essential to agriculture. Fossil fuels, by contrast, have been widely used in agriculture only since

ORIGINS OF FOOD PRODUCTION pdf

the early s, with the invention of mechanized tractors and synthetic nitrogen fertilizers manufactured using natural gas. Today, over half of the global energy use for commercial agriculture is attributable to manufacturing synthetic nitrogen fertilizers. Like oil, phosphorus can also be obtained from the buried remains of once-living organisms. By the s, England had dug up the phosphorus-rich skeletal remains of countless soldiers from European battlefields, to be ground up and applied to farm fields.

5: Food industry - Wikipedia

Throughout history, increases in agricultural productivity competed against population growth, resource degradation, droughts, changing climates, and other forces that periodically crippled food supplies, with the poor bearing the brunt of famine.

The origins of animal and plant domestication is considered an important development in human history by anthropologists and the sub-discipline field of archaeology is responsible for collecting the site data to enable study of this social advancement. Purposeful Domestication The deliberate planning and planting of crops or the purposeful domestication of wild animals marks a point of innovation and a greater complexity of social interaction and technological requirements in a society. It is traditionally presumed that the move from collecting wild food to farming food gave workers more leisure time and a better standard of life. Lazy Days However, hunter-gatherers had a relatively easy life anyway, with few pressures and little real worries. Ethnologists suspect that hunter-gatherers only worked as required, perhaps a few hours on a few days each week, and that this was sufficient to maintain their needs. Research has shown that the change to producing domesticated food types is one that left workers busier than before and with new pressures such as market demands, price returns, weather conditions, pests and diseases, seed collection, reproduction difficulties, and taxes. Art for the Elite Only An increase in leisure time was only for the elite classes and especially those who owned or ruled over the lands. Peasant workers received very little benefit from the domestication process. Society, as a whole, did benefit by releasing a small number of the elite to religious, governmental, and even artistic pursuits. Food domestication appears to differ from the Old World to the New World and there are two main food source divisions that should be considered: There are a number of important grain crops that were domesticated in these regions. The most familiar in the West are wheat, barley, and rye, along with numerous feed grasses that were used for animal production, while in the Middle East lentils, nuts, and dates were being domesticated with rice and millet predominating Far East trends. Important also in the process of domestication was the non-food crops such as oil producing plants sunflowers, olives, etc and utilitarian crops such as cotton, hemp, and flax. Animals Archaeologists believe that the earliest domesticated animal species was the dog. A domesticated form of the wolf was used for personal protection from intruders while other varieties proved useful in flushing out wild game or even killing in the hunt. Other uses were as workers such as pulling sleds. As food sources, palaeontologists have discovered so many sheep and goat remains that it is unquestionable that these animals were under early human control especially in the Middle East. The Far East, although also using sheep and goats, were strongly developing species such as the pig and birds including domesticating the chicken and duck. Oxen, cows, horses, and other large animals were not the first to be domesticated and the harnessing of these animals for food and production did not enter until a much later time. New World Domestication Plants The Americas of the New World were slowly developing important crops like peppers, beans, potatoes, peanuts, coffee, and tomatoes. Many of these crops have become the staples of modern economies and international cuisine. But equally important are the non-food crops that produced medicinal drugs and tobacco. Animals As in the West, so too in the New World was the dog an early contender for domestication. Sadly, for the Central American dog, he was more desired as a delicacy than a labourer. The Aztecs, for example, bred the small, hairless Chihuahua as a meat source along with guinea pigs. Archaeological Differences Archaeologists find distinct site differences between pre and post domestication. Architecturally, the sites of post domestication show larger, close quartered structures that yield evidence of greater populations. The architectural features are more permanent in their construction and there are purpose built structures for storage facilities. Socially, there is often artefact evidence supporting a widening gap in social equality and often an elite ruling class can be seen emerging. The dry Middle East contains many archaeological sites that are well preserved from both the pre and post domestication periods. Israel, Jordan, and Syria all play host to former habitation sites were permanent plastered brick huts, grinding stones, and cereal grains show the transition of human development from hunter-gatherer to domesticated food farmer.

6: A brief history of food production & Foraging societies ~ The Nutrition Transition

food production, history of. Ensuring sufficient food supplies is one of the most basic challenges facing any human society. Organized and efficient food production supports population growth and the development of cities and towns, trade, and other essential elements of human progress.

Packaged meat in a supermarket Food processing includes the methods and techniques used to transform raw ingredients into food for human consumption. Food processing takes clean, harvested or slaughtered and butchered components and uses them to produce marketable food products. There are several different ways in which food can be produced. This method is used when customers make an order for something to be made to their own specifications, for example a wedding cake. The making of one-off products could take days depending on how intricate the design is. This method is used when the size of the market for a product is not clear, and where there is a range within a product line. A certain number of the same goods will be produced to make up a batch or run, for example a bakery may bake a limited number of cupcakes. This method involves estimating consumer demand. This method is used when there is a mass market for a large number of identical products, for example chocolate bars , ready meals and canned food. The product passes from one stage of production to another along a production line. This method of production is mainly used in restaurants. All components of the product are available in-house and the customer chooses what they want in the product. It is then prepared in a kitchen , or in front of the buyer as in sandwich delicatessens , pizzerias , and sushi bars. Industry influence[edit] The food industry has a large influence on consumerism. Food law Since World War II, agriculture in the United States and the entire national food system in its entirety has been characterized by models that focus on monetary profitability at the expense of social and environmental integrity. Trucks commonly distribute food products to commercial businesses and organizations. A vast global cargo network connects the numerous parts of the industry. These include suppliers, manufacturers, warehouse, retailers and the end consumers. Wholesale markets for fresh food products have tended to decline in importance in urbanizing countries, including Latin America and some Asian countries as a result of the growth of supermarkets , which procure directly from farmers or through preferred suppliers, rather than going through markets. The constant and uninterrupted flow of product from distribution centers to store locations is a critical link in food industry operations. Distribution centers run more efficiently, throughput can be increased, costs can be lowered, and manpower better utilized if the proper steps are taken when setting up a material handling system in a warehouse. During the 20th century, the supermarket became the defining retail element of the food industry. There, tens of thousands of products are gathered in one location, in continuous, year-round supply. Food preparation is another area where the change in recent decades has been dramatic. Today, two food industry sectors are in apparent competition for the retail food dollar. The grocery industry sells fresh and largely raw products for consumers to use as ingredients in home cooking. The food service industry by contrast offers prepared food, either as finished products, or as partially prepared components for final "assembly". Restaurants, cafes, bakeries and mobile food trucks provide opportunities for consumers to purchase food. Food industry technologies[edit] The Passaic Agricultural Chemical Works, an agrochemical company, in Newark, New Jersey, Modern food production is defined by sophisticated technologies. These include many areas. Agricultural machinery , originally led by the tractor , has practically eliminated human labor in many areas of production. Biotechnology is driving much change, in areas as diverse as agrochemicals , plant breeding and food processing. Many other types of technology are also involved, to the point where it is hard to find an area that does not have a direct impact on the food industry. As in other fields, computer technology is also a central force, with computer networks and specialized software providing the support infrastructure to allow global movement of the myriad components involved. Food marketing and Agricultural marketing As consumers grow increasingly removed from food production, the role of product creation, advertising, and publicity become the primary vehicles for information about food. With processed food as the dominant category, marketers have almost infinite possibilities in product creation. Modern food processing factories are often highly automated and need few workers. Until the last

ORIGINS OF FOOD PRODUCTION pdf

years, agriculture was labor-intensive. Farming was a common occupation and millions of people were involved in food production. Farmers, largely trained from generation to generation, carried on the family business. That situation has changed dramatically today. In America in , percent of the US population was employed in agriculture. The food industry as a complex whole requires an incredibly wide range of skills. Several hundred occupation types exist within the food industry.

7: Food and Food Production - African Studies - Oxford Bibliographies

This is a discussion of how, when and why people in early civilizations began planting and harvesting food instead of hunting and gathering. Over 1, words of original text including links to informative websites.

Industrialization and Urbanization 19th Century In , 95 percent of American families lived in rural areas. Over the course of the nineteenth century, however, many Americans moved to urban areas, seeking new jobs created by the Industrial Revolution. By , 40 percent of Americans lived in cities. From the start, Dr. Harvey Wiley of the U. S. Department of Agriculture led the fight against adulterated food. While the economic fallout of the Great Depression was felt throughout the United States and around the world, it also profoundly affected American agriculture. Donald Worster argues that the Dust Bowl and the Great Depression occurred simultaneously because they were both products of the same American society, culturally oriented toward rampant expansionism, which destroyed balance, both economically and ecologically. During the s, this imbalance was evident as the strained soil of the southern plains in Kansas, Colorado, Oklahoma, Texas, and New Mexico turned from profitable wheat production to dust. New Deal agricultural policies attempted to assuage the Dust Bowl with price supports, which continue to influence farm production and the cost of food in America, and around the world. World War I and II and The World Wars required civilians to temporarily modify eating practices, changes that transformed the American diet and food system. During WW I, the US government encouraged civiliansâ€”often through posters â€”to consume more fresh foods, such as produce, eggs, and dairy products, whose perishable nature made them unsuitable for shipment to the warfront Freidberg This wartime promotion played a role in changing how Americans ate long-term and created consumer need and desire for kitchen equipment that maintained the freshness of perishable foods Freidberg As a result, home refrigerator sales increased considerably between the wars, from 8 percent in the s to 44 percent by Nickles During WW II, the military food machine developed new foods for soldiers, such as Spam , dehydrated potatoes, and powdered orange juice. Learn more about this in big ideas. In this process, certain elements of the countercuisine survived in tact, others were modified and combined, while still others disappeared entirely. Healthism s While Americans have long eaten with good health in mind, marks a turning point as food, nutrients, and health became fused in the American consciousness when the US Departments of Agriculture and Health and Human Services published the first Dietary Guidelines for Americans. These seven guideline statements contributed to growing public awareness of the connections between consuming foods high in fat, sodium, and cholesterol and disease, from strokes to diabetes Vileisis Furthermore, by promoting specific nutrients rather than whole foods, the food industry was primed to develop new products, pacifying health worries with processed foods marketed as healthy, such as Lean Cuisine and Diet Pepsi Belasco While industrialization and urban living began a chain of events distancing eaters from food knowledge, the reduction of food to nutrients and numbers also dramatically altered American food perceptions, creating a food system even more complicated for health conscious consumers to navigate.

8: History of Agriculture - Food Production - Food System Primer - Johns Hopkins University

Start studying Origins of Food Production (Demographic and Nondemographic theories). Learn vocabulary, terms, and more with flashcards, games, and other study tools.

During its brief history, agriculture has radically transformed human societies and fueled a global population that has grown from 4 million to 7 billion since 10,000 BCE, and is still growing. Resource degradation, rapid population growth, disease, changing climates, and other forces have periodically crippled food supplies, with the poor bearing the brunt of famine. We still face many of the same challenges as our ancestors, in addition to new and even greater threats. To successfully navigate an uncertain future, we can begin by learning from the past.

Dawn of agriculture

Left to right: Gingerbread plum, baobab seed, carissa fruit. These wild foods, native to Africa, may resemble the fruits, nuts, and seeds that nourished our hunter-gatherer ancestors. All images cropped from originals. While the ancestral hunt for wild animals is often depicted as an epic conflict against woolly mammoths, early humans also took to foraging for humble insects. Today, some traditional cultures get as much as 20 percent of their calories from insects. The San are among the first people to have lived in southern Africa, and are one of the few societies that still follow a hunter-gatherer diet. To sustain their lifestyle, San typically spend 12 to 19 hours per week gathering food from the wild—what many might consider a life of leisure. Click images for captions

Paleoanthropologists have estimated that the earliest fossil evidence of *Homo sapiens*—anatomically modern humans—is roughly 300,000 years old. The shift to agriculture is believed to have occurred independently in several parts of the world, including northern China, Central America, and the Fertile Crescent, a region in the Middle East that cradled some of the earliest civilizations. There are many plausible reasons, all of which likely played some role at different times and across different parts of the world: Changes in climate may have made it too cold or too dry to rely on wild food sources. The plow and the various improvements upon its design were innovations that transformed human history, allowing farmers to cultivate land with a fraction of the labor they once used. Pulled by animals or tractors, plows are used to turn over the top layer of soil, helping destroy weeds, bury residues from previous crops, bring nutrients and moisture to the surface, and loosen soil before planting. Grave chamber of an Egyptian public official, circa 2600 BCE. The plow is believed to have been used as early as 4,000 years ago in ancient Egypt. Although it brought tremendous gains in short-term productivity, it has also been a major contributor to soil erosion. The loss of fertile topsoil has played a role in the decline of numerous civilizations. Click images for captions

For better or for worse, agriculture was a driving force behind the growth of civilizations. Farming probably involved more work than hunting and gathering, but it is thought to have provided 10 to 100 times more calories per acre. Small settlements grew into towns, and towns grew into cities. Hunting, gathering, and farming, however, can complement one another in ways that provide people with a more varied and abundant food supply. People still harvest aquatic plants and animals from the sea, for example, and even urban dwellers might find edible berries, greens, and mushrooms in their local park. Limits to growth

Depleted farmland and a changing climate set the stage for periodic famines throughout much of Europe from 1300 to 1900. Image attributed to Michael Wolgemut. Click images for captions

In the history of civilization, the plowshare has been far more destructive than the sword. Throughout history, increases in agricultural productivity competed against population growth, resource degradation, droughts, changing climates, and other forces that periodically crippled food supplies, with the poor bearing the brunt of famine. Like many of their modern counterparts, early farmers often worked land in ways that depleted its fertility. Technological innovations like irrigation circa 3000 BCE and the plow circa 2000 BCE brought enormous gains in productivity, but when used irresponsibly they degraded soil—the very foundation that makes agriculture possible. In 1798, economist Thomas Malthus warned that unchecked population growth would outpace food production, setting the stage for widespread starvation. Synthetic fertilizers are manufactured using a technique that transforms nitrogen in the atmosphere into a form that can be applied to crops as ammonia. Freight train carrying grain across Washington state. Beyond synthetic fertilizers, other innovations in food production and distribution helped food supplies keep pace with population growth. Expanded railways, shipping canals,

and new machinery for storing and moving grain made it easier to transport food to where it was most needed. Click images for captions From to , the global population grew from 1. Still, the sheer volume of production dwarfs that of earlier generations. What has made such unprecedented abundance possible? Innovations in food production and distribution have thus far helped food supplies keep pace with population growth. Crops indigenous to the Americas, such as corn, sweet potatoes, and cassava, spread across the globe. The nutrients provided by these prolific crops helped prevent malnutrition, supporting a widespread increase in population over the 18th century. Resources The following list of suggested resources is intended as a starting point for further exploration, and is not in any way comprehensive. Introduction to the US Food System: Johns Hopkins Center for a Livable Future.

9: Origins of Food Production in Mesoamerica - Oxford Handbooks

2. Describe and evaluate four major theories of the origins of food production, and three major consequences of same,
3. Be able to describe the dynamics of Gwembe Tonga subsistence agriculture in Central Africa, as a way of understanding some of the realities facing early farming societies,
- 4.

Ensuring sufficient food supplies is one of the most basic challenges facing any human society. Organized and efficient food production supports population growth and the development of cities and towns, trade, and other essential elements of human progress. For many thousands of years, people collected their food from the wild or hunted animals large and small. The teamwork required to bring down a mastodon may have been the first type of collective enterprise in which humans engaged. The "hunter-gatherer" mode was sufficient for small groups in favorable environments, but as population grew and people pushed into areas less endowed with easily obtainable food, they sought more reliable sources of nutrition. Scientists believe that agriculture was established first in the Fertile Crescent of the Middle East about ten or eleven thousand years B. The region was home to a variety of edible and easily cultivated crops: Also, the region was endowed with wild goats, sheep, pigs, and cattle, all of which were domesticated and became important sources of food. Cattle are also useful work animals, and all these animals produce manure for fertilizer. Thus, a complete agricultural package was available, and it helped give rise to the civilizations in the Middle East. The need for common facilities to thresh and store grain was a major impetus for settlements; the wall of Jericho dates from around B. Agriculture developed independently in the part of Mexico and Central America known as Mesoamerica; in the Andean highlands of Peru ; in the American Midwest; in north and south China ; and in Africa. But the Fertile Crescent had a long head start and the most favorable combination of plants and animals, and this eventually translated into a significant cultural advantage for Europe. In the ancient world, the Mediterranean Sea was crisscrossed with ships carrying spices from the Middle East and ultimately India , wine and olive oil from Greece , and grain from Egypt. The city of Rome came to depend on wheat from Egypt and North Africa to supply the grain and, later, bread that was distributed free of charge to its plebeians. The annona the distribution of free or reduced-price grain or bread reached impressive dimensions: Roman agriculture was otherwise centered on the villa rustica, a type of large estate with diversified production of grain, vegetables, fruits, nuts, and livestock. After the Roman Empire collapsed, these estates became the model of the medieval fief, the property held by a lord and worked by serfs who were legally bound to the land. In the early feudal period, peasant families could gather game in the forests, but eventually these were reserved to the aristocracy and the peasants got by on little more than bread and gruel. Technology, as simple as it was in the Middle Ages , played a role in increasing food production. The development of a heavy plow capable of breaking the dense, wet soils of northern Europe reached Germany by the eighth century, and opened up a major new grain source for the rest of the continent. Grist mills powered by wind or water popped up all over Europe beginning in the eleventh century, providing large-scale processing of grain into flour. Medieval European crop farmers had few options for increasing production. The usual practice was to rotate fields between grain and pasture so that they would be refreshed by animal manure between crops, a practice called "fallow. Rotating fields through grain, legumes, and fallows boosted productivity by at least a third and added peas, beans, chickpeas, lentils, and other vegetables to the European diet. China, often thought of as a land of rice, also depended heavily on millet, wheat, and soybeans. Rice production increased significantly in the eleventh century when new strains were imported from Southeast Asia. Chinese fishermen also gathered fish from the ocean, lakes, and rivers, and sold them in vast central markets, which supplied networks of cookshops, restaurants, banqueting halls, and other eating places. The Arab world also had a varied and sophisticated system of food production, with water-powered mills grinding grain full-time in North Africa and fishermen packing Mediterranean tuna in salt. The Arabs introduced citrus, rice, and sugarcane to Europe and controlled the lucrative spice trade with India. European interest in breaking the Arab hold on the spice trade led to the voyages of discovery of Vasco da Gama and Columbus. Discovery of the New World touched off the greatest and most rapid spread of new crops the world had seen. The Americas contributed maize corn , potatoes,

tomatoes, and peppers to Europe, while the Europeans brought wheat and other staple crops, and sugarcane, which was very successful in Brazil and later the Caribbean region. Sugarcane cultivation created a demand for labor that was met by the African slave trade. The "Columbian Exchange" thus laid the basis for much of the subsequent economic and political history of the New World. In the Old World, the decline of feudalism and the rise of cities and towns helped move agriculture from subsistence to a market orientation. Land that had been held in common and used mainly for grazing was consolidated under the control of individual landowners, which greatly increased production of both crops and animals. The draining of marshy land, especially in England and the Low Countries, was accelerated. All these trends supported the more intensive cultivation of the available land and the production of more and cheaper food for growing and more urban populations. By the late 18th century, European agriculture could provide approximately two-and-a-half times the yield per input of seed that had been normal in the Middle Ages. Science and technology played an increasingly important role in food production in the eighteenth and nineteenth centuries. The development of mineral and then chemical fertilizers freed farmers from reliance on manure and fallows as ways of renewing the soil. New equipment, such as the mechanical seed drill, made for more efficient planting. The mechanization of agriculture advanced rapidly in the nineteenth century with mechanical reapers, the tractor, and electric milking machines, among other innovations. Scientists also developed a better understanding of the nutritional components of food, which led to an emphasis on a balanced diet and, by the twentieth century, resulted in the improvement of food with the addition of vitamins and minerals to products such as bread and breakfast food. Preserving food for later consumption has always been a challenge, especially in countries with long winters when little fresh food was available. Grain kept well if kept dry, but meat and fish had to be salted, and a monotonous diet of bread, dried peas, and salted fish sustained many Europeans through the winter until the early modern period. The preservation of food by heating it and sealing it in jars or cans began in the early nineteenth century, followed by pasteurization of wine and later milk to kill spoilage organisms. The great chemist Louis Pasteur developed the process that bears his name to save the French wine industry, not its dairy farmers. Canning and pasteurization made a wider variety of foods available to urban populations. With the development of steamships and refrigeration in the nineteenth century, the international food trade was transformed. Worldwide food exports went from 4 million tons in the 1850s to 18 million tons thirty years later and 40 million tons by 1900. Chicago became the center of the U.S. Agriculture, fisheries, and livestock and poultry production are now so efficient in Europe, North America, Australia, Argentina, Brazil, Japan, and other advanced countries that production can easily overwhelm demand, resulting in low prices and financial losses for producers. Governments all over the world subsidize their farmers and attempt to protect them from foreign competition, which keeps farmers in business but raises the cost of food to consumers. In the United States, for example, sugar costs twice what it does on the world market because of the protection of domestic producers. Some of the benefits of Western agriculture and food production have been modified and transferred to the developing world. The use of high-yield wheat and rice, along with large doses of fertilizer—the so-called "Green Revolution"—has transformed the food picture in many countries. Wheat production in India nearly tripled from 1960 to 1980 while rice production increased 60 percent with the new strains and new methods. During the 1970s alone, rice production rose 37 percent in Indonesia and 40 percent in the Philippines. Food today is often highly processed before being sold to consumers. Conversely, "pure," "organic," "all-natural" foods are becoming more popular. While dwarfed by the mainstream food industry, organic production can be profitable and viable. Governments seek to encourage this type of production, with strict regulations effective on what can be labeled "organic" in the United States and programs such as "Label Rouge" "red label", which recognizes organic-style production, in France. With rapid advances in biotechnology, genetic manipulation of crops accelerated in the 1990s and is expected to have a significant impact on food production. Maize, for example, is bioengineered to resist insect pests, and soybeans are modified to shrug off a common herbicide that keeps the fields free of weeds. These traits are advantageous to producers but not directly beneficial to consumers. The next level of genetic modification will be to insert traits actually beneficial to humans into food plants, such as rice fortified with extra vitamins that ward off blindness. Genetic modification of food plants is controversial and closely regulated by government but is felt by many

ORIGINS OF FOOD PRODUCTION pdf

to be the next frontier in food production. Guns, Germs, and Steel: The Fates of Human Societies. Flandrin, Jean-Louis, and Massimo Montanari, eds. A Green History of the World: The Environment and the Collapse of Great Civilizations. A History of Europe. So Shall You Reap: Farming and Crops in Human Affairs. Three Rivers Press, The Story of Mankind from Pre-history to the Present. Lobb Pick a style below, and copy the text for your bibliography.

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