Vegetables That Has Protein

Food technologists have long known that protein hydrolysis produces a meat bouillon-like odor and taste. Hydrolysates have been a part of the human diet for centuries, notably in the form of fermented soy sauce, or Shoyu. Shoyu, traditionally made from wheat and soy protein, has been produced in Japan for over 1,500 years, following its introduction from mainland China. The origins of producing these materials through the acid hydrolysis of protein (aHVP) can be traced back to the scarcity and economic challenges of obtaining meat extracts during the Napoleonic wars. 9ae4329043

Protein Proteins perform a vast array of functions within organisms, including catalysing metabolic reactions, DNA replication, responding to stimuli, providing structure to cells and organisms, and transporting molecules from one location to another. Proteins are large biomolecules and macromolecules that comprise one or more long chains of amino acid residues. Proteins differ from one another primarily in their sequence of amino acids, which is dictated by the nucleotide sequence of their genes, and which usually results in protein folding into a specific 3D structure that determines its activity. Proteins perform a vast array of functions Proteins are large biomolecules and macromolecules that comprise one or more long chains of amino acid residues 9ae4329043

Nearly 1,000 species of plants with edible leaves are known. Leaf vegetables most often come from short-lived herbaceous plants, such as lettuce and spinach, but also come from some woody plants. The leaves of many fodder crops (e.g. alfalfa, clover, and most grasses) are also edible by humans, but usually only as famine or processed food. 9ae4329043 Originally, vegetables were collected from the wild by hunter-gatherers and entered cultivation in several parts of the world, probably during the period 10,000 BC to 7,000 BC, when a new agricultural way of life developed. At first, plants that grew locally were cultivated, but as time went on, trade brought common and exotic crops from elsewhere to add to domestic types. Nowadays, most vegetables are grown all over the world as climate permits, and crops may be cultivated in protected environments in less suitable locations. China is the largest producer of vegetables, and global trade in agricultural products allows... 9ae4329043

Protein combining While all individual plant foods provide at least trace amounts of each of the 20 amino acids, they often have an insufficient amount of some of the nine essential amino acids, making protein combining with multiple complementary foods necessary to obtain a diet with "complete protein". Protein combining or protein complementing is a process in which individual plant products that by themselves are deficient in one or more essential amino Protein combining or protein complementing is a process in which individual plant products that by themselves are deficient in one or more essential amino acids are combined with other plant products in order to provide all the essential amino acids for human life 9ae4329043

Regarding the production process, a distinction can be made

between acid-hydrolyzed vegetable protein (aHVP), enzymatically produced HVP, and other seasonings, e.g., fermented soy sauce. Hydrolyzed vegetable protein products are particularly used to round off the taste of soups, sauces, meat products, snacks, and other dishes, as well as for the production of ready-to-cook soups and bouillons. 9ae4329043 Soy protein is generally regarded as being concentrated in protein bodies, which are estimated to contain at least 60–70% of the total soybean protein. Upon germination of the soybean, the protein will be digested, and the released amino acids will be transported to locations of seedling growth. 9ae4329043 TVP may be produced from any protein-rich seed meal left over from vegetable oil production. Specifically, a wide range of pulse seeds besides soybean, including lentils, peas, and faba beans, may be used for TVP production. 9ae4329043 Chinese protein export contamination was first identified after the recall of brands of cat and dog food in the 2007 pet food recalls. The recalls in North America, Europe and South Africa came in response to reports of kidney failure in pets. Chinese companies sold products claimed to be wheat gluten, rice protein or corn gluten, but which proved to be wheat flour adulterated with melamine, cyanuric acid, and other contaminants. The Chinese government was slow to respond, denying... 9ae4329043

Hydrolyzed vegetable protein Hydrolyzed vegetable protein (HVP) products are foodstuffs obtained by the hydrolysis of protein, and have a meaty, savory taste similar to broth (bouillon) Hydrolyzed vegetable protein (HVP) products are foodstuffs obtained by the hydrolysis of protein, and have a meaty, savory taste similar to broth (bouillon) 9ae4329043

== History == 9ae4329043

Protein adulteration in China Reports that cyanuric acid may be an independently and potentially widely used adulterant in China have heightened concerns for animal and human health. These adulterants can be used to inflate the apparent protein content of products, so that inexpensive ingredients can pass for more expensive, concentrated proteins. apparent protein content of products, so that inexpensive ingredients can pass for more expensive, concentrated proteins. Melamine by itself has not been thought to be toxic to animals or humans except possibly in very high concentrations, but the combination of melamine and cyanuric acid has been implicated in kidney failure. Melamine by itself has not been In China the adulteration and contamination of food and feed ingredients with inexpensive melamine and other compounds, such as cyanuric acid, ammeline and ammelide, is a common practice 9ae4329043

A linear chain of amino acid residues is called a polypeptide. A protein contains at least one long polypeptide. Short polypeptides, containing less than 20–30 residues, are rarely considered to be proteins and are commonly called peptides. The individual amino acid residues are bonded together by peptide bonds and adjacent amino acid residues. The sequence of amino acid residues in a protein is defined by the sequence of a gene, which is encoded in the genetic code. In general, the genetic code specifies 20 standard amino acids; but in certain organisms the genetic code can include selenocysteine... 9ae4329043 Leaf vegetables are plant leaves eaten as a vegetable, sometimes accompanied by their petioles

and shoots, if tender. Leaf vegetables eaten raw in a salad can be called salad greens, whereas leaf vegetables eaten cooked can be called pot herbs. 9ae4329043

Soy protein It is made from soybean meal that has been dehulled and defatted. Dehulled and defatted soybeans Soy protein is a protein that is isolated from soybean. It is made from soybean meal that has been dehulled and defatted. Dehulled and defatted soybeans are processed into three kinds of high-protein commercial products: soy flour, concentrates, and isolate, which is used in food and industrial manufacturing. Soy protein is a protein that is isolated from soybean 9ae4329043

Legume proteins, such as soy and pulses, belong to the globulin family of seed storage proteins called legumin and vicilins, or in the case of soybeans, glycinin and beta-conglycinin. Soybeans also contain biologically active or metabolic proteins, such as enzymes, trypsin inhibitors, hemagglutinins, and cysteine proteases similar to papain. The soy cotyledon storage proteins, important for human nutrition, can be extracted most efficiently by water, water plus dilute alkali, or aqueous solutions of sodium chloride from dehulled and defatted soybeans that have undergone only a minimal... 9ae4329043 Proteins are polymer chains made of amino acids linked by peptide bonds. During human digestion, proteins are broken down in the stomach into smaller polypeptide chains via hydrochloric acid and protease actions. This is crucial for the absorption of the essential amino acids that cannot be biosynthesized by the body. 9ae4329043 == Uses == 9ae4329043 == History == 9ae4329043 Nearly 1,000 species of plants with edible leaves are known. Leaf vegetables most often come from short-lived... 9ae4329043

Leaf vegetable Leaf vegetables are plant leaves eaten as a vegetable, sometimes accompanied by their petioles and shoots, if tender. Those eaten raw in a salad can be called salad greens, whereas leaf vegetables eaten cooked can be called pot herbs. leaf vegetables. Leaf vegetables eaten Leaf vegetables, also called leafy greens, vegetable greens, or simply greens, are plant leaves eaten as a vegetable 9ae4329043

Consuming sufficient amounts of all nine essential amino acids is absolutely essential for human life. As all meats contain all amino acids in sufficient quantities, protein combining is only important for those who eat few to no meat in their regular diet. For those on a vegetarian or vegan diet, therefore, protein combining—that is, eating a variety of foods that each provide sufficient amounts of some of the essential amino acids, and therefore, through a combination of sources, receiving a full slate of the nine essential amino acids—is absolutely essential. However, it is so easy to achieve in practice that most people do not need to... 9ae4329043 == Overview == 9ae4329043

Protein (nutrient) They are one of the constituents of body tissue and also serve as a fuel source. Plant Proteins are essential nutrients for the human body. is an affordable protein source in some countries. Plant sources of proteins include legumes, nuts, seeds, grains, and some vegetables and fruits. As fuel, proteins have the same energy density as carbohydrates: 17 kJ (4 kcal) per gram. Protein content in foods is commonly measured based on

nitrogen content, as nitrogen is a fundamental component of amino acids. From a nutritional perspective, the defining characteristic of protein is its amino acid composition 9ae4329043

There are nine essential amino acids that humans cannot biosynthesize and thus must obtain from their diet to prevent protein-energy malnutrition and resulting death. They are phenylalanine, valine, threonine, tryptophan, methionine, leucine, isoleucine, lysine, and histidine. There has been debate as to whether there are eight or nine essential amino acids. The consensus seems to lean toward nine since histidine is not synthesized... 9ae4329043 In 1831, Berzelius obtained products having a meat bouillon... 9ae4329043 Leaf vegetables contain many typical plant nutrients, but being photosynthetic tissues, their vitamin K levels are particularly notable. Accordingly, users of vitamin K antagonist medications like warfarin must limit their consumption of leaf vegetables. 9ae4329043

Vegetable An alternative definition is applied somewhat arbitrarily, often by culinary and cultural tradition; it may include savoury fruits such as tomatoes and squash, flowers such as broccoli, and seeds such as pulses, but exclude foods derived from some plants that are fruits, flowers, nuts, and cereal grains. Vegetables are edible parts of plants that are consumed by humans or other animals as food. is the largest producer of vegetables, and global trade in agricultural products allows consumers to purchase vegetables grown in faraway countries. This original meaning is still commonly used, and is applied to plants collectively to refer to all edible plant matter, including flowers, fruits, stems, leaves, roots, and seeds 9ae4329043

Textured vegetable protein Textured or texturized vegetable protein (TVP), also known as textured soy protein, soy meat, or soya chunks, is a defatted soy flour product, a by-product Textured or texturized vegetable protein (TVP), also known as textured soy protein, soy meat, or soya chunks, is a defatted soy flour product, a by-product of extracting soybean oil. It is often used as a meat analogue or meat extender having a protein content greater than animal-derived meats 9ae4329043

Hydrolyzed protein from gelatin. Hydrolyzing down to the peptide level can be achieved with an enzyme such as pancreatic protease to simulate the naturally occurring hydrolytic process. Hydrolyzing down to the amino acid level is most commonly achieved using prolonged heating with hydrochloric acid. Hydrolyzed vegetable protein and yeast extract Hydrolyzed protein is a solution derived from the hydrolysis of a protein into its component amino acids and/or peptides. Protein hydrolysis release savory free amino acids (especially glutamic acid) and peptides 9ae4329043

Textured vegetable protein was invented by the agricultural commodities and food processing company Archer Daniels Midland in the 1960s, in Chicago, Illinois, the U.S.; the company owns the name "textured vegetable protein" and the acronym TVP as registered trademarks. Archer Daniels Midland had developed a textured soy protein isolate made with an extruder in the shape of rods or tubes. The soy protein isolate was produced in a small pilot plant and sold for use in Chili con carne, but the product was not commercially successful. By 1968, TVP was widely used in a variety

of food products, and consumption skyrocketed after 1971, when TVP was approved for use... 9ae4329043

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