



Flavours forgotten and unforgotten

Traditional vegetables in Polish cuisine



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Generalities

Of over 250 vegetable species known worldwide, only app. 40 are cultivated commercially in Poland.

Domestic production of vegetables during 2004–2014 varied from 4.9 MT to 5.6 MT, depending on a season, which makes Poland third/forth producer of vegetables in the European Union.

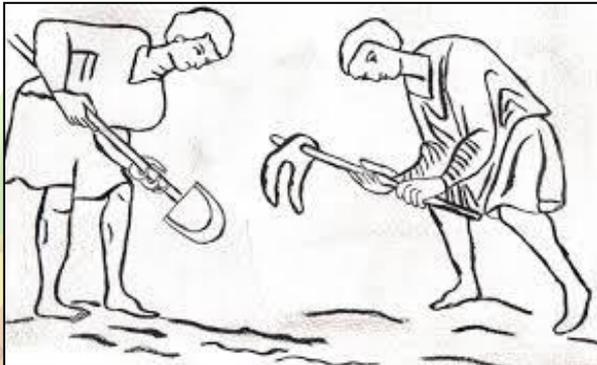
Poland is also the first/second (*ex aequo* with the Netherlands) European producer of champignons

App. 30% of vegetables and over 70% of champignons is exported, mainly to EU countries.

Vegetables are produced on over 200 000 farms, of which 97% are small, with vegetable cultivation area lower than 2 hectares.

App. 10% of vegetables are produced in small gardens and backyards. This is traditionally a source of self-supply in rural households, but is becoming also a favourite pastime of some city dwellers (urban horticulture)

A bit of a history



The archaeological excavations show that vegetables have been cultivated on the territory of nowadays Poland in times prehistoric. The first historical evidences come from the much cited accounts of the court of Polish king Władysław Jagiełło. From those it is known that medieval Poles have cultivated and consumed **cabbages, peas, cucumbers, beets, turnip, broad beans, lentils, onions, carrots, parsnip, kale and dill.**



The vegetables were not popular among Polish gentry, who preferred meaty foods. However, their consumption was in some ways enforced by numerous fasting days, of which in medieval Europe was as much as 192.

As opposite, for poor population vegetables, especially pulses, cabbage and kale constituted a staple food supplementing vitamins to the diet based mainly on cereals. Thus, vegetables were commonly regarded as the food of the poor.

In 16th century the selection of vegetables on Polish tables was significantly enriched by the queen Bona of the Italian family Sforza, who imported many vegetables from her home country. This included **cauliflower, parsley, celery, artichoke, leek, broccoli, garlic, lettuce and spinach**. However, the new vegetables were not widely accepted by Polish nobility, who was used to heavy diet rich in meats and fats. They were branded with a deprecating name "włoszczyzna". In free translation it means „originated in Italy”, what at that time was not a compliment.



Because of low popular acceptance, the „Italian” vegetables were initially cultivated only in gardens located at monasteries and a few granges belonging to nobility. With time however, they become popular as an important constituent of traditional Polish food.



Vegetable production in Poland has significantly progressed in 16th and 17th century. The vegetable gardens were usually set up in the farms belonging to the gentry, where they occupied app. 1.5% or total arable areas. At least 30 species were commonly cultivated and consumed, including newly introduced **beans, rutabaga, poppy, peas, beans, cucumbers, parsley, parsnip, kale, rutabaga, dill and herbs.**

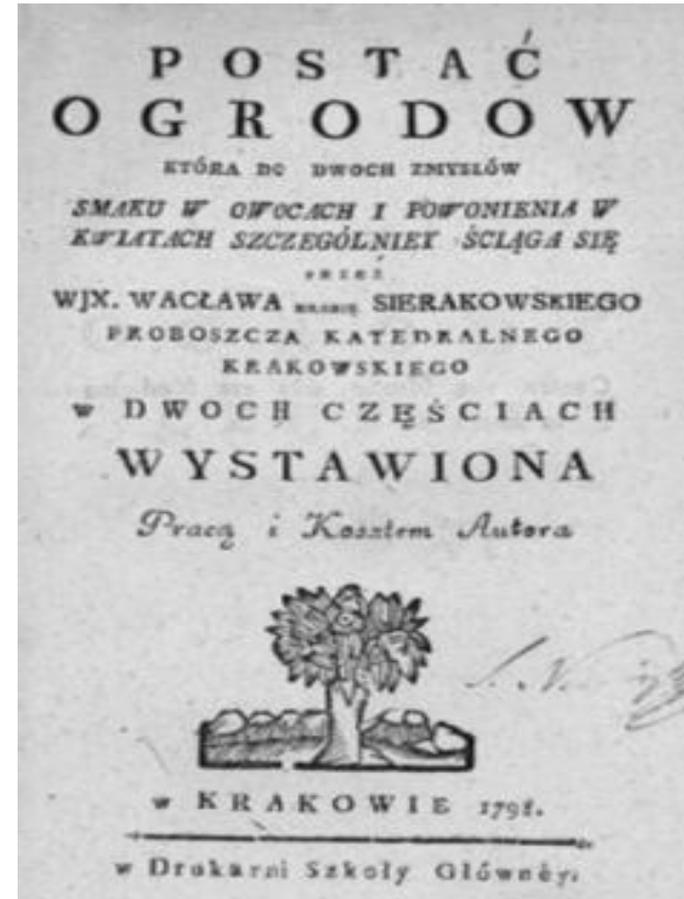


The selection of vegetables in peasant households was much poorer and included only cabbage, turnip, rutabaga, peas and broad beans. Together with cereal products, like groats, noodles and bread, they constituted staple food of rural population.

In addition, wild vegetable species like **sorrel, pigweed, horseradish, bear's garlic, nettle and hogweed** were collected and consumed by poor peasant population

Wacław Sierakowski, the autor of 18th century garden book „Postać ogrodów, która do dwóch zmysłów: samaku w owocach i powonienia w kwiatach szczególnie ściąga się” describes vegetables, which were cultivated at this time in Polish gardens. In addition to the species known previously, he described **broccoli, endives, asparagus, thyme, hop, pumpkins and watermelons.**

In 19th and 20th century the new vegetables: **kohlrabi, papers, aubergine, Brussels sprouts, black salsify (skorzonera), radishes** and several types of **lettuces** have been introduced.



Some semantics

Traditionally in Poland two names were used to describe vegetables: **jarzyny** i **warzywa**. The first name was applied to spring, leafy vegetables, usually eaten raw. This name has derived from the term „jary”, which in Polish means annual plant planted in the spring. The second name was applied to root and tuberous vegetables, which were eaten after boiling („warzenie” in old Polish). At present both terms are used as synonyms.



In addition, the term „**włoszczyzna**” is used in food recipes and on the market. Etymology of this name is connected with the queen Bona and initially was used to describe vegetables imported by her from Italy. Nowadays it is used for a set of vegetables (carrots, parsley root and leaves, celeriac and leek) used for cooking soups and bullions. In the market they are usually sold in bundles or plastic wraps.



Known and less known vegetables

and their culinary uses



Headed cabbage (*Brassica oleracea* var. *capitata* L.)

The head cabbage is derived from the wild species *Brassica oleracea*, native to Europe. This species is highly polymorphic and, besides cabbage, has several other easily interbreeding botanical varieties like cauliflower, broccoli, Brussels sprouts, kale and kohlrabi.

Cabbage has been domesticated probably in second millennium b.c. and has been known and highly valued in ancient Greece and Rome. In medieval Europe it has been one of the most popular vegetables. It has been introduced to Poland, probably from Germany, in early middle ages. The cultivated forms include white cabbage (*B. oleracea* var. *capitata* f. *alba*), red cabbage (*B. oleracea* var. *capitata* f. *rubra*) and savoy cabbage (*Brassica oleracea* L. var. *sabauda* L.)



Cabbages contain many compounds important for human nutrition and health, namely microelements (especially sulphur), vitamins A, C, E, H, K and of group B, polyphenols and dietary fibre. Important components of cabbages are glucosinolates (thioglycosides), which have antitumor activity.

Cabbage is a queen of Polish kitchen. It is frequently eaten raw in salads, as well as cooked in soups or stuffed with rice or buckwheat with minced meat („gołąbki”). However, the most frequently used is sauerkraut. It would be hard to imagine Polish Christmas Eve dinner without sauerkraut cooked with mushrooms or dumplings stuffed with sauerkraut and mushrooms. Sauerkraut is also a main ingredient of regional foods, like „kulebiak”, „kawaśnica” or sauerkraut cooked with peas.

Because of its importance, a barrel of sauerkraut was a must in the pantries of traditional Polish homes. The harvest of cabbage and its processing into sauerkraut (shredding and stomping in the barrels) has been an occasion for festivities comparable with vintage in wine countries.



Common onion (*Allium cepa* L.)

The common onion is known only as a cultivated form. It has developed most likely as a natural hybrid of wild species of *Allium* native to Central Asia. It has been cultivated already in 32 century B.C. In Poland onion has been listed in the account of king's Jagiełło court. At present onion is cultivated in most of the countries worldwide.

The onion is rich in Ca, P, Fe, S and Zn and vitamins A, B1, PP, C. It also contains sulphoorganic compound allicyn, which gives it characteristic flavour. Allicyn has bacteriostatic properties and onion preparations has been used in folk medicine to fight common cold and other ailments, but the effectiveness of such treatment have not been confirmed in clinical studies. Also the claims the consumption of onion decreases cholesterol blood level are not supported.

The onion is rarely used as stand-alone dish, but is widely used as ingredient of sups, salads, sauces and meat dishes.



Carrot (*Daucus carota* L. subsp. *sativus*)

Cultivated carrot is a subspecies of wild (*Daucus carota* L.) native to Europe and South-eastern Asia. Most likely it has been domesticated in China in 2nd-3rd millennia B.C., but initially it has been valued for its aromatic leaves and seeds. The consumption of taproots probably has started in ancient Rome. Initially cultivated carrots had white, yellow and purple taproots and in China also black (var. *atropurpurea*). Orange-coloured carrots have been bred in the Netherlands in 17th century.

Carrot taproot is a source of carbohydrates, vitamins B1, B2, B6, C, E, H, K and PP, α - and β -carotenes, volatile oil, calcium, phosphorus, iron and dietary fibre.

Carrot taproot has many culinary uses. It can be eaten raw in salads or cooked. It is a common ingredients of soups, sauces and casseroles. Carrots stewed with green peas is a popular side dish to meats. In some regions it is also used for baking cakes.



Tomato (*Solanum lycopersicum* L.)

Tomato originated in Central and South America, where still exists many wild species, which can be easily intercrossed. It has been introduced to Europe by Spanish conquistadores. Initially the fruits were considered to be poisonous, mainly due to their belonging to the same family as deadly henbane and belladonna, and were grown as ornamentals. In native lands tomato grows as perennial, but in temperate climate the plants are dying after season.

Its English name is derived from the Aztek word „tomati“. Polish name „pomidor“ is a borrowing from Italian „pomodoro“. It was first introduced to Poland in early 19th century, but become popular only after 2nd WW. Tomato fruits contain: microelements K, Mg, Ca, Mn, Cu, Fe, I vitamins K, B1, B2, B5, B6, C, PP, folic acid and licopen – carotenoid with antitumoric properties.

Tomato fruit are eaten raw in salads and sandwiches, and are common ingredients of soups, sauces, casseroles, meat dishes and pastas. They are also processed into juices, concentrates and sauces, most notably ketchups.



Cucumber (*Cucumis sativus* L.)

Cucumber originated in India and belongs to the earliest cultivated vegetables. It is mentioned in the Bible, and in the legend of Gilgamesh. The ancient Greeks believed that the cucumber increase intelligence and soothe passions, so Aristoteles recommended it to „too temperament“ ladies. In Western Europe it has been popularised by Romans while to Eastern Europe, including Poland, it has been introduced from Byzantium.

The nutritional value of cucumber is not high. It contains only 3% of dry weight and small quantities of vitamins and minerals, mainly in the skin. May be consumed raw in salads, but much more culinary uses it has after souring (fermenting) Soured cucumbers (dills) can be added to salads and meat dishes, but also used for cooking soups. Popular are also cucumbers pickled in vinegar.

The juice form fresh cucumbers is used in cosmetics as an ingredient of moisturising creams.



Cauliflower (*Brassica oleracea* L. var. *botrytis* L.)

Cauliflower is known only as cultivated plants. It originated probably by spontaneous mutation from head cabbage or broccoli, with which it can mutually cross-breed. It has been known already in antiquity. In Poland its cultivation started at the turn of 16th and 17th century, supposedly introduced by gardeners of queen Bona. Its edible part (the curd) is a modified meristem of inflorescence. The most popular colour of the curd is white, but there are also cultivars with curds green, orange and purple.

Cauliflower contains K, MG, Fe, Zn, F, I, vitamins K, B1, B2, B3, B5 B6, C; carotenes and volatile oils which produce unpleasant odour during cooking. As other plants of the *Oleraceae* family, it contains also antitumoric glucosinolates. Cauliflower can be eaten raw in salads, but most often is cooked and served with butter melted with bread crumbs. Cauliflower is also used in vegetable soups and casseroles. It is highly priced by vegetarians.

The big advantage of cauliflower is its low allergenicity.



Leek (*Allium ampeloprasum* L.)

Leek originated from Asia Minor and has been cultivated since antiquity. It is mentioned in the Bible and in Mesopotamian documents dated on 2nd millennium B.C. Leek has been cultivated in ancient Egypt, Greece and Rome. The legend says that it was a favourite vegetable of Emperor Nero who believed, that it has beneficial effect on his voice. In Poland it is known since medieval times.

Leek is a source of vitamins A, E, C, B6 and folic acid, potassium, calcium magnesium and phosphorus. Due to high content of iron, it is recommended as accessory diet in treating anaemia. It is believed to decrease cholesterol blood level and strengthen the immune system, but this is not supported by clinical studies.

In Poland leek for a long time was considered as a food for poor and was not very popular. It gained wider acceptance after French cuisine became fashionable. Leek is frequently used in salads, most often as a prime ingredient. It can be also boiled and fried. In Poland it is one of the ingredients of a set of vegetables used for preparing soups and bullions („włoszczyzna”).



Red beet (*Beta vulgaris* L. subsp. *vulgaris*)

Cultivated red beet is derived from wild species *Beta vulgaris*, native to Europe, Western Asia and Northern Africa. It has been cultivated already in ancient Egypt. In Poland it is known since Middle Ages

Edible are both the taproot and the leaves with stalks. The taproot contains vitamins A, B1, B2, B3, B4, B5, B6, B12, C, anthocyanins and Fe, Ca, Mg, K, Mn, Cu, Cl, F, Zn, B, Li, Mo, Co, Rb and Cs. The important constituent of taproot is betaine (trimethylglycine), which has medical application. The leaves contain also folic acid and carotenoids.

The red beets have many culinary uses. The taproot may be boiled, baked, fried, fermented and pickled. The fermented beet roots are used for cooking red borsch, while young whole plants are used for traditional Polish soup called „botwina”. Unique for Poland and Belarus is a dish called „ćwikła”, prepared with boiled and ground beet root with addition of ground horseradish root, which is used as a relish for meat dishes.



Celery (*Apium graveolens* L.)

Cultivated celery is derived from wild plants *Apium graveolens* native to Europe (in Poland it grows in wilderness in the island Uznam), Asia and Northern Africa. It has been cultivated since antiquity. In Poland, practically only root celery (*Apium graveolens* L. var. *rapaceum* (Mill.) Gaudin) is being used in the kitchen. It has been introduced by gardeners of queen Bona in 16th century. The leaf celery (*Apium graveolens* L. var. *secalinum* (Alef.) Mansf.) has been introduced only recently and is still not very popular.

Celery root (properly swollen hypocotyl) contains volatile oils composed of terpenes and sesquiterpenes, vitamins C, PP and of the group B, calcium, potassium, zinc and phosphorus. Consumption of celery root boosts metabolism and decrease blood pressure. It has also an opinion of being strong aphrodisiac.

The celery root can be eaten raw in salads, usually shredded and mixed with shredded apple, or boiled and fried. But most frequently it is used for cooking soups and bullions.



Beans (*Phaseolus sp. L.*)

Four species of beans: *Phaseolus vulgaris* L. (common beans), *Phaseolus acutifolius* (tepany bean), *Phaseolus coccineus* (runner bean), and *Phaseolus lunatus* (lima bean). have been domesticated in South and Central Americas at least in the 2nd millennium B.C., and brought to Europe by Spaniards. In Poland the beans are cultivated since late 16th century. Edible are mature seeds and immature pods (green beans).

Beans have high nutritional value. They are the third in importance, after soybean and peas, source of plant protein and are frequently called „meat of the poor“. Besides, beans contain also starch, vitamins B1, B6, folic acid and dietary fibre. Traditionally dry beans are boiled and served with some melted butter or stewed with meat and tomatoes. Besides, dry beans are used for preparing a bean soup. Locally, the dry beans are used for preparing vegetable hamburgers and pies.

The green beans are usually boiled and served with melted butter with bread crumps.



Pea (*Pisum sativum* L.)

Pea is native to Mediterranean region and Near East and has been cultivated already in Neolith. Peas seeds have been found in archaeological excavations dated on 4800-4400 B.C. In medieval Europe it has been a staple food. In Poland pea has been cultivated since early Middle Ages.

Pea seeds are rich in proteins and starch. Besides, they contain vitamins A, B6, C, and K, phosphorus, magnesium, copper, iron and zinc. The seeds can be eaten both mature and immature (green peas), however the later has been consumed until 17th century and were considered as luxury food.

Traditional Polish dish made of mature pea seed is pea soup, usually cooked with bacon. Regionally popular is sauerkraut cooked with pea, and pea hamburgers.

The green peas are usually eaten, lightly blanched, in vegetable salads. Green peas cooked with carrots is also a popular side dish. Locally, the immature pods are eaten raw.



Turnip (*Brassica rapa* subsp. *rapa*)

Turnip has been domesticated probably in India and has been cultivated since Neolith. According to Herodotus, it was s staple food of pyramid builders in ancient Egypt. In Poland it has been known since times prehistoric.

Turnip root is rich in vitamins and minerals. It contains also glucosinolates, which promote bile production, and raphanin, which has antibacterial, antifungal and antiviral activity.

Turnip has specific, pungent aroma and taste. It can be eaten raw, boiled or baked. It has been popular in Poland for centuries, but nowadays is little known and eaten only locally, especially in Eastern regions. Which is a pity because it is nutritious and has beneficial effect on consumer's health. It is recommended by dieticians as a remedy for liver ailments. It helps also to mitigate the adverse effects of chemotherapy and decrease cholesterol blood level.

The extract from turnip is a base for a popular liver medicine „Rapaholin”



Broad bean (*Vicia faba* L.)

Broad bean is known only as a cultivated plant and its origin is not known. It has been cultivated in the Mediterranean basin since Neolithic; the seeds have been found in archaeological excavations in Jericho and Troy. It is also mentioned in the Bible. In Poland broad beans are known since prehistoric times.

Broad bean seeds are the source of proteins, starch, vitamins C, A and of group B, calcium, iron, and dietary fibre.

In old Poland broad bean has been a staple food, together with peas and cereal groats. However, it was considered to be a simple food for the poor and with the increased availability of other vegetables, its consumption decreased. At present, it is eaten only occasionally. The most popular are immature (green) seeds boiled in salted water and consumed alone or in salads. It can be also added to casseroles, omelettes, or fried as pancakes.

Besides true broad beans, in Poland cultivated is also its small-seeded variety, *V. faba* var. *equina*. It can be also consumed by people, but more frequently is used as animal feed.



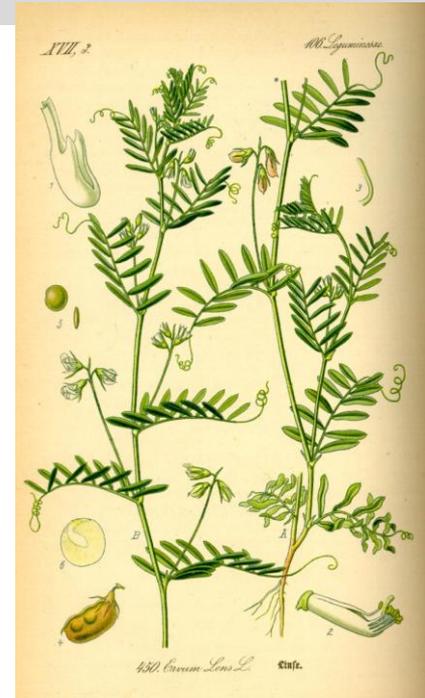
Lentil (*Lens culinaris* Medik.)

Lentil has been cultivated since Neolith; its seeds has been found in archaeological excavations dated at 10th millennium B.C. It has been highly valued as a food; it is known from the Book of Genesis that Esau has sold his birth right to Jacob for a bowl of lentils. It constituted the basic food in ancient Egypt, Greece and Rome and was popular in medieval Europe. In Poland lentil has been known since Middle Ages.

Lentil has three types (varieties) differing in colour of the seed (red, yellow and green) and culinary uses.

Lentil seeds are a source of high quality proteins. Besides, it contains carbohydrates, vitamins C, PP and of group B, minerals and fibre. Its regular consumption increase red blood cells count and haemoglobin level. Because the seeds easily break down during cooking, lentil is used for preparing soups, sauces and vegetable stews.

In Poland lentil is not very popular nowadays. It is used in casseroles, vegetable salads and as a stuffing for pancakes and dumplings. However, it is very important for vegetarians, who use it as a substitute of meat in hamburgers and pies.

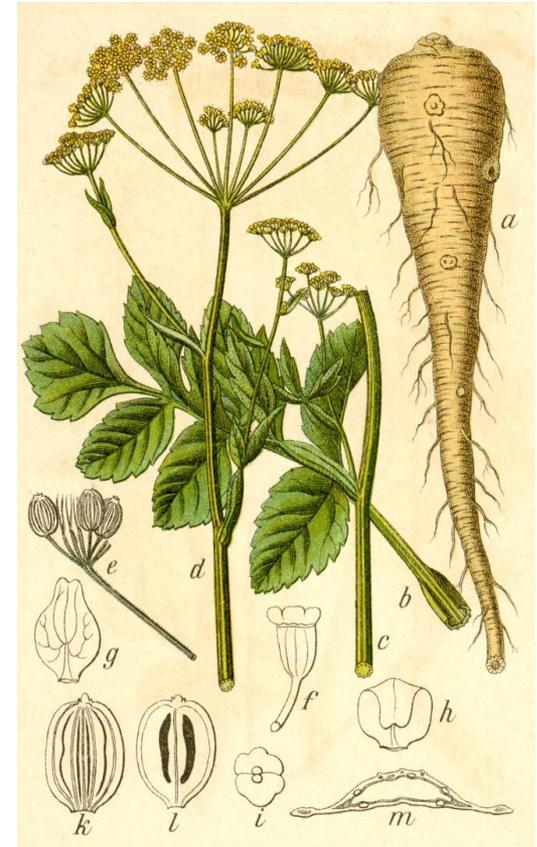


Parsnip (*Pastinaca sativa* L.)

Wild parsnip is native to Europe, Asia Minor (Turkey) and Western Siberia. Its cultivated form, *P. sativa* subsp. *sativa* var. *sativa*, has been grown since antiquity. Visually it resembles parsley, but its root is bigger and has sweeter taste. Before arrival sugarcane to Europe, it has been used as a sweetener.

Parsnip root contains proteins, starch, vitamins C and of group B, calcium, iron and dietary fibre. Besides, it contains volatile oils, flavonoids (rutin, isorhamnetin, isoquercetin) and furanocumarins (isopimpinellin, sfondin, bergapten, imperatorin), which have medical applications. Parsnip has diuretic and detoxification activity. Extracts from parsnip root are used in folk medicine for treating skin discolouration and in mild symptoms of night-blindness .

Parsnip has been cultivated in Poland since Middle Ages. Among other vegetables, it is mentioned in the account of king's Jagiełło court. However, later on it was ousted from the tables by potato and has been used as animal feed instead. Nowadays it is gaining again popularity. It is eaten in vegetable salads and in soups.



Kale (*Brassica oleracea* L. var. *sabellica* L.)

Kale is a botanical variety of cabbage with curly leaves. It has been cultivated in Greece, alongside with head cabbage, already in 4th century B.C. In medieval Europe kale belonged to the most popular green vegetables.

Kale is a rich source of vitamins K and C, carotenoids (β -carotene, lutein, zeaxanthin), as well as of calcium and iron. It contains also sulforaphane, the organosulphuric compound which helps to mediate the effects of neurodegenerative disorders, cancers, spinal cord injury and gastric diseases.

In old Poland kale was very popular; it has been eaten raw or after boiling, served with sour cream. It was often served with chestnuts, boiled eggs and bacon. However, with time it become forgotten and after the 2nd WW the information about kale could be found only in gardener's books. Now it is becoming popular again. It is eaten either raw or blanched and served with melted butter and bread crumbs. Popular are also becoming more innovative kale products, like kale chips and smooties.



Kohlrabi (*Brassica oleracea* var. *gongylodes* L.)

Kohlrabi is known only as a cultivated plant. Botanically it is a variety of cabbage. Kohlrabi has been known already in ancient Rome, where it has been considered as low quality food and fed to the slaves. In Western Europe it is known since 17th century. Kohlrabi was introduced to Poland in late 19th century.

Edible are both the swollen shoot (anatomically it is outgrown lateral meristem) and young leaves. Kohlrabi is a source of carbohydrates, vitamins B1, B2, B3, B6, B9 and C, carotenes, potassium, magnesium, iron, copper, phosphorus and iodine. It is recommended for patients with arteriosclerosis.

Kohlrabi has been popular in Poland in 1930s – 1940s. At present, it is little known. Usually it is eaten raw, either alone as an appetiser or as an ingredient of mixed salads. Locally it is used as an ingredient of vegetable soups. It may be also fried and stewed.



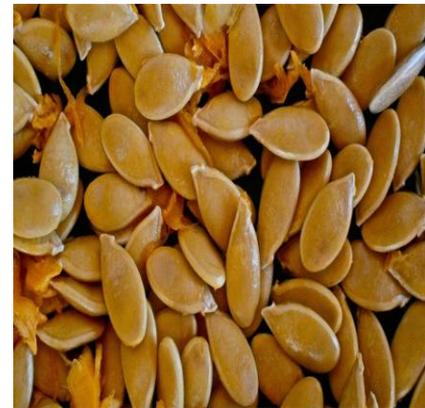
Pumpkin (*Cucurbita maxima* Duch.)

Pumpkin originated from Central and Southern Americas, where it has been cultivated since 3rd millennium B.C. It has been introduced to Europe by Spaniards. In Poland pumpkin is known since 17th century.

Pumpkin is a rich source of vitamins: A, B1, B2, C, PP beta-carotene. Especially valuable are cultivars with orange pulp (mesocarp). Pumpkin pulp contains also proteins, carbohydrates and minerals: phosphorus, iron, calcium, potassium and magnesium.

Pumpkin pulp is edible after cooking. In Poland popular are pumpkin cubes pickled in vinegar with spices, which are eaten with cold meats. Besides, the pulp is used for soups. Pumpkins are also used as animal feed and for producing alcohol.

Pumpkin seeds, usually dried or roasted, are popular snacks. The cold-pressed pumpkin seed oil is rich in linoleic and oleic acids, vitamins A, E, B1, B2, B6 and D, beta-carotene, phytosterols, potassium, selenium and zinc. It is considered a delicacy and used for salad dressing. It has also medical applications; among other for treating urinary tract ailments and arteriosclerosis.



Jerusalem artichoke (*Helianthus tuberosus* L.)

Jerusalem artichoke (topinambour) is native to Northern America, where it was widely cultivated. It was introduced to Europe in 17th century. During the same period it has been introduced to Poland.

Edible parts of topinambour are underground tubers, which have sweet, nutty taste. Tubers contain practically no starch, but high amounts of inulin, which is a fructose polymer (fructan) not digested in human guts. Thus, it is recommended for diabetics, especially those with diabetes type II. The tubers contain also vitamins C and B1 magnesium, potassium and silica.

The oldest Polish cookbook „Compendium Ferculorum”, published in 1682, recommend fried tubers as side dish to meats and fish. They could be also breaded and served with mushroom sauce or roasted. In 19th century topinambour was ousted from the tables by potatoes. At present, topinambour is not well known in Poland. Regionally, it is eaten boiled or roasted with cheddar cheese. It has also been attempted to produce topinambour chips.



Rutabaga (*Brassica napus L. var. napobrassica*)

Rutabaga is known only as a cultivated species. It originated probably in Scandinavia or Russia in 17th century as a spontaneous hybrid of cabbage and turnip. It was introduced to Poland in 19th century. Edible are both the tap roots and leaves of rutabaga.

Rutabaga has low soil requirements and will produce high crops on light soils with minimal fertilization only. Thus, it has been grown and consumed during crises and wars, and is associated in people's minds with hunger and poverty. During 2nd WW rutabaga was an important food item in countries occupied by Germany. It has been cooked in soups or baked.

Nowadays, rutabaga is hard to come by at the market and is consumed only locally. Which is a pity because it is a rich source of nutrients. The root contains carbohydrates, vitamins A, of group B, C, D and K, calcium, phosphorus, iron, magnesium, copper, sulphur, and dietary fibre. It contains also glucosinolates, which have potentially antitumor activity.





Thank you for attention