CHICORY

Cichorium intybus
[sik-KOR-ee-um IN-tye-bus]

Family: Compositae

Names: Wild Succory, Succory, Wild Chicory, coffeeweed, blue sailors, ragged sailors, blue dandelion, hendibeh, bachelor’s button, blowball, blue daisies, blue daisy, bunk, coffeeweed, Italian dandelion, monk’s beard, wild endive, Barbe de Capucin; chicoree sauvage (French); Zichorie, Chicorie, Kaffeezichorie (German); cicoria (Italian); Cykoria podroznik, Cykoria Dzika (Polish); Pikralidha, Radhiki (Greek); Achicoria (Spanish); Zikorifa (Russian); Suikerey (Dutch);

Description: Stemmy, upright plant with a height of 2-5 feet and a width of 2 ½ feet. The flowers are azure blue, 1 ½ inch wide and close at midday. (These blue flowers can be changed to bright red by the acid of ants: place a flower in an ant hill and watch the color show.) The leaves are oblong, bristly and mostly near the bottom of the plant. The young toothed leaves are sometimes mistaken for dandelion leaves but are much more bristly. Blooms from July to September. Originally a European native, it grows commonly in England where it is known as succory and has naturalized itself in surrounding locations, in North America and in temperate areas of Australia. Chicory is a warm season plant providing abundant forage from spring to fall and is a favored food of livestock, ostrich and many wild game animals to include deer, turkey and quail. The chicory plant is used in many parts of the world also for sugar, coffee additives and salads.

Cultivation: Germination is in 7-14 days. Spacing is 10-12 inches. Soil temperature preferred 70°F with a pH of 6-8. Soil should be calcium-rich, well drained, with medium to high fertility levels and a pH of 5.5 or greater. Tolerates poor conditions, but has less flavor. Full sun. In the North, plant in the spring or early summer. In the South, fall plantings are best. Seed may be either drilled or broadcast. Drilling is preferred as it provides a more uniform depth of planting. Plant ¼ to ½” deep. Cultipacking the seedbed before and after broadcast seeding ensures that the seeds have good soil-to-soil contact and are not planted too deep. Seeding rate: Alone-- 4-5 lbs/acre. With mixture of grasses and/or legumes--1-2 lbs/acre.

Chicory can be harvested 80-100 days after planting. For optimum performance and persistence, Chicory should be rotationally strip
grazed, or machine harvested. Optimum harvest height is 12-18 inches, leaving a stubble height of 1.5 inches. Allow a rest period of 25-30 days between harvests. Care must be taken to keep the growth under control and not allow the seed stems to develop and bolt. If stalks should appear, immediately graze or mow to keep the plant vegetative and force new growth. When strip grazing, a back fence should be used so that regrowth will not be grazed and the stand weakened. Roots can be harvested all winter digging them up in the fall, and trimming them to 10 inches. They are replanted in sand or light soil in a protected area, often in a shed or cellar, away from light and freezing temperatures. The leaves are also blanched a creamy white by “forcing” them and growing them without sunlight so that they won’t develop the bitterness of wild plants. The young heads are harvested as soon as the white leaves show above the soil. The chicory now looks like an elongated lettuce heart of creamy-colored leaves, the outside ones measuring approximately 6 inches long. It is important to use the chicory as soon as possible as it deteriorates quickly. Keep the ground watered until the shoots appear, and watch for snails and caterpillars. Chicory, if managed properly, produces leafy growth which is higher in nutritive and mineral content than alfalfa and cool season grasses. Protein levels range between 10 to 32 percent depending on plant maturity, and annual dry matter yields of 6 tons/acre have been obtained. It has a deep tap root which provides for tolerance to drought conditions.

**History:** The first written mention of Chicory appears on an Egyptian papyrus 4,000 years before the Christian era. According to Pliny, chicory juice was mixed with rose oil and vinegar as a remedy for headaches. So reliable is the regular opening and closing of the flowers that Linnaeus grew chicory in his famous “floral clock” in Uppsala, Sweden. In that latitude, the flowers could be depended on to open at 5am and close at 10am. The Latin name *Chichorium* has become the name for the plant in almost every European language. This name has been traced back from Latin, Arabic, and classical Greek to the ancient Egyptians. They called it *Chickoryeh* and were very fond of eating it. *Intybus* simply means “relating to chicory” and is also derived from an Arabic word for the plant. Chicory has been identified as one of the bitter herbs in the Bible as well. Charlemagne demanded that chicory be one of the 75 herbs planted in his gardens. And Elizabeth I drank a broth made from it. In the U.S., Thomas Jefferson was raising chicory during the American Revolution and he extolled the plant’s value as cattle fodder.

There is an old Silesian folktale that describes how Chicory (*Czekanka*) got its name. Centuries ago, a sorcerer had a beautiful blue-eyed daughter named Czekanka, who was betrothed to a handsome youth. He was murdered by a rival, and in despair, Czekanka killed herself at his grave. Her sorrow-stricken father changed her into a chicory plant, with blue flowers in remembrance of her lovely eyes, so that she might forever remain beside the tomb of her beloved.

Another legend explains why the Chicory flowers close at noon. Long ago, the Sun fell in love with a maiden for the sake of her eyes, of an exquisite, starry blue. He begged the girl to marry him, but she thought herself too good for the Sun and rudely refused him. He changed her into the Chicory plant and commanded her to gaze at him forever with flowers as blue as her eyes had been. Despairingly she called upon her mother, a powerful witch, to restore her to human form. This her mother could not accomplish, but she weakened the enchantment so that the flowers could have respite and close at noon.

In recent years, chicory has received widespread attention in a number of countries, due to its high yield, high mineral content and drought resistance qualities (Clark et al., 1990; Scales, 1993; Hume et al., 1995). Furthermore, chicory can also be used for the production of a number of industrial feedstocks e.g. inulin and oligofructose syrup is extracted from chicory roots and used as low energy value natural sweetener compared to sucrose from sugar beet (Frese, 1993). Although chicory originated
from Central Europe, most research has been
done in Australia and New Zealand. Moloney
and Milne (1993) reported that 10000 hectares
of chicory (cv Grasslands Puna) are now grown
annually in New Zealand, supporting sheep,
cattle and deer.

Goldfinches love chicory seeds. Symbolizes frugality.

**Constituents:** The root contains up to 58%
inulin and sesquiterpene lactones (lactucine and
lactupicrine), sugar, as well as vitamins (B, C,
K, P) and minerals. Chicory flowers contain
cichoriin, which is 6,7-glucohydroxycoumarin.
The greens contain choric acid (dicaffeoyl
tartaric acid), flavonoids, catechol tannins,
glycosides, carbohydrates, unsaturated sterols
and triterpenoids and tartaric acid.

**Nutritional profile:** one-half cup chopped
chicory greens has 21 calories. It provides 1.5
protein, 0.3 g fat, 4.2 g carbohydrates, 90 mg
calcium, 0.8 mg iron, 3,600 IU vitamin A and
22 mg Vitamin c.

One-half cup raw chicory root has 33
calories. It provides 0.6 g protein, a trace of
fat, 7.9 g carbohydrates, 18 mg calcium, 0.4 mg
iron, 3 IU vitamin A and 2.3 mg vitamin C

**Culinary Uses:** Enormous quantities of the
plant are cultivated for the ground Chicory
which forms an ingredient or adulteration to
coffee to add flavor and correct the acidity and
excessive stimulation of coffee drunk by itself.
In Belgium, Chicory is sometimes even used as
a drink without admixture of coffee. For this
purpose, the thick cultivated root is sliced,
kiln-dried, roasted with sugar in tin drums and
then ground. To give it a dark color, the powder
is exposed to damp air in a cellar for several
weeks. It differs from coffee in the absence of
volatile oil, rich aromatic flavor, caffeine and
caffeotannic acid, and in the presence of a large
amount of ash, including silica. When roasted,
it yields 45 to 65 per cent of soluble extractive
matter. Roasted Coffee yields only 21 to 25 per
cent of soluble extract, this difference affording
a means of approximately determining the
amount of Chicory in a mixture. When
infused, Chicory gives to coffee a bitterish taste
and a dark color. French writers say it is
*contra-stimulante*, and serves to correct the
excitation caused by the principles of coffee,
and that it suits bilious subjects who suffer
from habitual constipation, but is ill-adapted for
persons whose vital energy soon flags, and that
for lymphatic or bloodless persons its use
should be avoided.

The young root can be boiled and eaten
like parsnips. The roots are sliced, soaked in
water and boiled to eliminate their acrid flavor
before preparation. They can then be sautéed
and served with a white sauce, a lemon-cheese
sauce, or yogurt. The pale green leaves also
make a fine salad. With its high inulin content,
the roots and leaves are beneficial in the diet of
diabetics.

With violets, the flowers were used to
make the confection, 'Violet plates,' in the days
of Charles II.

**Medicinal Uses:** Chicory has been an
esteemed medical plant ever since the Roman
physician Galen called it “the friend of the
liver” some 1,800 years ago. A syrup of
chicory, rhubarb and oats was given to patients
with liver ailments. It was also considered
valuable for treating a variety of other ailments.
A syrup of the whole plant was prepared with
sugar and taken to cure insomnia. The bruised
fresh leaves were applied externally for healing
eye inflammations and boiled in broth for
strengthening the digestion of the persons with
weak stomachs. An infusion of the leaves was
also used to reduce fever in children. A
distilled water of chicory or the juice pressed
from it was good for pregnant women and
especially to soothe nursing breasts that were
swollen from too much milk.

Chicory is an excellent bitter tonic for
the liver and digestive tract. Recommended for
loss of appetite and dyspepsia. The root is
therapeutically similar to dandelion root,
supporting the action of the stomach and liver
and cleansing the urinary tract. Chicory is also
taken for rheumatic conditions and gout, and as
milk laxative, one particularly appropriate for
children. An infusion of the leaves and flowers
also aids the digestion. A decoction may alleviate gallstones and kidney stones and aid in the production of bile.

Egyptians treated rapid heartbeat with chicory root, and scientists have discovered a digitalis-like principle in both the dried and roasted root that decreases the heart rate and amplitude. Conducted studies on rats show that inulin from chicory seems very effective in promoting propionic fermentation and enhances the calcium content of the large intestines. Experiments with the isolated toad heart show that chicory extracts reduce cardiac rate in a manner similar to quinidine. These findings suggest chicory constituents may be effective in treatment of disorders involving tachycardia, arrhythmias and fibrillation.

It also has been found to significantly lower cholesterol and blood sugar levels. The sesquiterpene lactones found in roasted root kill bacteria.

The fresh root is bitter, with a milky juice which is somewhat aperient and slightly sedative, suiting subjects troubled with bilious torpor, the plant has been pronounced useful against pulmonary consumption.

Dosage: root tincture: 20-30 drops 3 times per day.

REMEDIES:
Liver-Gallbladder-Spleen Tea
Mix chicory root, dandelion root and milk thistle seeds in equal parts and prepare them by steeping them in cold water, brining them to a boil and let it bubble for 5 minutes. A daily dose is 2-3 cups.

Water Tonic to reduce bloating
2 Tbsp fresh parsley leaves
2 Tbsp dandelion leaves
2 Tbsp chicory leaves
2 Tbsp corn silk from fresh corn
Steep a combination of available herbs in 2 cups of boiled water for 15 minutes, covered. Strain and drink 1 cup daily.

Chicory Wine
1 liter good red wine
1 handful chicory roots
1 handful rhubarb roots (Chinese medicinal rhubarb)
2 Tbsp buckhorn bark
1 tsp anise
1 cinnamon stick
2 Tbsp dried orange peel
After grinding all the ingredients in a mortar, pour them into a mason jar. Add the red wine and cover tightly. Let the jar stand in a warm spot for 3 weeks, shaking it occasionally. Strain the liquid into a dark bottle. Enjoy a snifter-full following meals.

Tea for Diabetics
Chicory root
Dandelion root
French bean pods
Stinging nettle
Goat’s rue
Whortleberry leaves
Combine equal amounts of the herbs. Steep 3 tablespoons of the herb sin 1 liter cold water, boil it for 5 minutes, remove from the heat and let it steep for another 10 minutes. Drink 2-3 cups daily. As a course of treatment, drink this tea for 3 weeks. Alternate it with a tea mixture for the kidneys or the liver. Then return to the tea for diabetics for another 3 weeks.

Flower Essence: Chicory is a very important remedy for emotional congestion and misdirected love forces. Those in need of this essence must learn to distinguish between personal emotions and desires, and genuine impersonal love and caring for another. Chicory flower essence nourishes the inner neediness of such souls and helps to re-balance and re-direct psychic currents of energy, especially as they flow through the heart and solar plexus.

Toxicity: Allergies possible to chicory and other composites. In case of gallstones, use only after consultation with health care practitioner. Chicory when taken too habitually,
or freely, causes venous passive congestion in the digestive organs within the abdomen and a fullness of blood in the head. If used in excess as a medicine it is said to bring about loss of visual power in the retina.

**Cosmetic Uses:** Chicory was much appreciated as a cosmetic. Several writers mention that a preparation of the gummy juice was used to smooth hairs of the eyebrows. Fresh chicory leaves crushed with vinegar and applied to the skin were a remedy for pimplies and other blemishes. The leaves were also chopped, made into little round cakes, dried, then dissolved in rosewater when needed as a skin wash. A decoction of chicory with water and honey was applied to the breasts to make them round and firm.

To make a facial cleanser, put two teaspoons of the root in two cups of water and let it boil for 10 minutes. Then add a few chicory flowers and let the mixture steep a while before straining it. Place the compress on the face and let it penetrate for 15 minutes. For inflamed skin, add a few plantain leaves with the chicory flowers to soothe and disinfect the skin.

**Eye Lotion:** Make an infusion of a handful of the blue flowers in ½ pint of water; allow to cool. The infusion will remove tiredness and inflammation from tired eyes or eyes that have been exposed to strong sunlight.

**Ritual Uses:** It was considered an herb of Venus and was prized for love charms and potions. One charm was fashioned from the root where a girl dug Chicory from the ground on one of the Apostle’s Days (June 29 and July 25) with a golden knife. Worn as an amulet, it assured her of her lover’s faithfulness. Chicory seeds were added to the food or wine of a person whose love was desired. It was also believed that it could make one invulnerable. When prepared in a certain complicated ritual, it could yield a cloak of invisibility. Chicory is believed to be the famous “Luck Flower” of German mythology. Blue and starlike, the Luck Flower was born of lightning. Whoever possessed it could cause the very mountains to open, gaining entry to the subterranean caverns of the netherworld, where great treasures of gold and precious gems were to be found.

Chicory was believed to have the magical ability to open doors and boxes. The strongest locks and stoutest bars would immediately fly open at the first application of this powerful charm flower, which had the additional and convenient advantage of rendering its possessor invisible. To be efficacious, however, the plant had to be gathered on St. James’s Day (July 25) at the stroke of midnight. It had to be cut with a golden knife in strictest silence, and if the person harvesting it uttered so much as a sigh, he would die immediately, or soon thereafter.

Chicory is an herb of the sun, used to transcend any obstacle that life may bring. It helps a person cultivate frugality and wins the favors of important people.

**Apparition Incense**

3 parts wood aloe, 2 parts coriander, 1 part camphor, 1 part mugwort, 1 part flax, 1 part anise, 1 part cardamom, 1 part chicory, 1 part hemp

Burn to cause apparitions to appear.

**Other Uses:** The leaf is boiled for a blue dye. The whole plant is grown for fodder and in nutritious pasture mixtures. A major recent interest is using chicory root to produce a substitute for corn syrup products. Part of the benefit in chicory is its ease of processing compared to the complex process required for the production of HFS from corn. Corn starch is a natural polymer of glucose, and starch hydrolysis must be followed by the additional steps of glucose isomerization and chromatographic absorption to produce high fructose corn syrup. Although the content of recoverable carbohydrate in raw chicory is only about one third of that in corn (15% moisture), chicory yields more than twice the HFS per hectare as corn. In Europe the production of HFS from chicory has been pioneered by the beet sugar industry. Chicory processing uses many of the operations commonly employed in beet sugar factories. Washed chicory roots are
sliced and transferred to a countercurrent diffuser where inulin is leached out with hot water. The ‘thin juice’ is treated with lime and carbonated. Precipitated protein and other impurities are removed in a plate and frame filter. If HFS is the desired product, the thin juice is acidified by passage through a strong cation ion exchange column which removes calcium and other cations, and drops the pH to about two. Heating the juice to 90°C at this pH rapidly hydrolyses the inulin to fructose and glucose. Additional processing includes anion exchange, carbon treatment, filtration and evaporation. The end product is a water-white, ash-free syrup containing between 80 and 90% (dry basis) fructose. When inulin is the desired end product, the hydrolysis step is omitted, and inulin recovered as a dry, white powder by spray drying. High fructose syrup from chicory can be blended with corn glucose syrup to produce the HFS42 and HFS55 'commodity' syrups currently used by the baking and beverage industries. These blended syrups are functionally identical to the HFCS 42% and HFCS 55% fructose syrups produced by the corn wet milling industry. However, chicory syrups are expected to be particularly competitive with corn syrups at the 80 to 90% (dry basis) fructose level. Such syrups are the natural product of chicory hydrolysis and require no blending. The extra sweetness of these 80-90% fructose syrups, may mean the processor needs to add less syrup, resulting in cost savings. Although inulin is used commercially in Europe, North American food manufacturers are only just beginning to examine this material as a potential new food ingredient. Inulin can be used in foods not only as source of dietary fiber, but also as a functional ingredient generally described as a hydrocolloid. A variety of functions are possible, including thickening, stabilization, textural enhancement, fat replacement, flavor release, etc. In fact, many researchers foresee inulin developing the same myriad of uses as starch.

Recipes:

Sea Lettuce Salad
½ cup fresh sea lettuce
1 clove garlic
1 cup fresh chicory leaves, washed and torn into bite-size pieces
2 cups lettuce, washed and torn into bite-size pieces
1 tsp minced chives
¼ cup radishes, thinly sliced
1 Tbsp wine vinegar
3 Tbsp olive oil
½ tsp salt
4 grinds pepper

Rinse sea lettuce in 2 changes of fresh water and cut into thin strips. Rub salad bowl with garlic and fill with salad greens. Pour 1 Tbsp of olive oil over the greens and toss well. Then add the vinegar, salt, pepper and remaining oil and toss until each leaf is coated with dressing. Serves 4. (The Wild Gourmet)

Chicory Casserole
4 chicory heads
butter or margarine
2 tsp dried thyme
salt and pepper

Wash and trim the chicory. Cut it into circles and pack into a buttered casserole dish with the thyme, salt, pepper, and pieces of butter between the layers. Put the lid on and bake in a moderate oven (300F) for about 1 ½ hours. (What Herb is That?)

Braised Chicory with Dill
1 lb chicory heads
1 Tbsp chopped chives
2 tsp chopped green dill
butter or vegetable margarine
salt and pepper

Wash and trim the chicory. Cut into thick circles and pack into a buttered ovenproof dish with the herbs, salt, pepper, and pieces of butter between each layer. Put the lid on and bake in a moderate oven (350F) for 1 ¼ to 1 ½ hours. (What Herb is That?)
Spinach, Chicory and Mushroom Salad with Bacon Dressing
2 cups spinach and chicory leaves per person
2 strips bacon per person
fresh mushrooms as desired
salad oil
wine vinegar
salt and freshly ground pepper

Wash and thoroughly drain spinach and chicory. If spinach leaves are very large, tear them into smaller pieces. Fry bacon until crisp, and reserve about 3 tablespoons of the bacon fat to add to the dressing. Slice mushrooms. Make a dressing with oil, some of the reserved bacon fat, vinegar, salt and pepper. Toss with greens and mushrooms and crumble bacon over. Serve immediately. (A City Herbal)

Chicory Ricotta
1 gallon milk
1 Tbsp salt
1 quart buttermilk
½ tsp salt
1 tsp white pepper
1/3 cup ‘Lemon Gem’ marigold petals, coarsely chopped
1/3 cup chicory petals, coarsely chopped
1 Tbsp thyme petals
2 Tbsp chopped chives
¼ cup dill flowers
2 Tbsp heavy cream

Bring milk and salt to a boil in a large saucepan. Add buttermilk and bring to a boil again. Remove from heat. Add salt and pepper. Strain in a colander lined with several layers of cheesecloth. Gently toss in flowers and chives, reserving some for garnish. Add cream. Return to strainer, press down firmly to shape and release liquid. Refrigerate until serving. Serve on toast points or melba toast, or stuff into vegetables or other flowers. (Edible Flowers from Garden to Palate)

Crab Spread
12 oz crab meat, coarsely chopped
½ cup water chestnuts, coarsely chopped
¼ cup scallions, finely chopped
2 Tbsp soy sauce
2/3 cup plain yogurt
1/3 cup mayonnaise
2 Tbsp chicory petals

Gently toss crab meat with water chestnuts and scallions. In a separate bowl, blend yogurt, mayonnaise and soy sauce. Add the yogurt mixture to the crab meat and mix well. Garnish with chicory petals. Delicious spread on melba toast or crackers, or used to stuff celery. (Edible Flowers from Garden to Palate)

Chicory Italian Style
Freshly gathered wild Chicory leaves
Olive oil
Garlic
Salt and freshly ground pepper

Wash chicory. Plunge into boiling water, cook 5 minutes and drain. Taste a leaf. If it is too bitter, repeat procedure. Drain well. Heat olive oil, and finely chop 1 or 2 garlic cloves. Add to the oil but do not let garlic get brown. Add chicory and cook only long enough to heat through. Add salt and pepper to taste. (A City Garden)

Chicory Flower and Cottage Cheese Salad
6 large, crisp lettuce leaves
1 celery stalk, thinly sliced
2 cups cottage cheese
6-8 chicory flowers

Line a large salad bowl with the lettuce leaves. Stir the celery into the cottage cheese and pile the mixture into the center of the bowl. Finally, decorate with the chicory blossoms. (Wild Foods)

Soup a L’ardennaise (Ardennes Chicory Soup)
1 lb Chicory (Belgian endive)
2 ea Leeks - white part only
¼ cup Butter
2 small Potatoes - peeled, diced
Salt
Pepper, white
2 ea Egg yolks
1/3 cup Half and half
2½ cup Milk
2 T Chives - chopped fine
Remove and discard core from each chicory head - cut remainder into ¼ inch slices. Cut leeks in 1/4 inch pieces. Melt butter in a large saucepan. Add sliced chicory and leeks - sauté 2-3 minutes. Add potatoes and milk. Season to taste with salt, white pepper. Bring to a boil, stirring occasionally. Cover and simmer 45 minutes - until potatoes are tender. In a small bowl, beat egg yolks with half and half. Stir in 1/4 cup hot milk mixture. Stir egg-yolk mixture into remain milk mixture. Stirring constantly, cook until slightly thickened. Pour into a tureen - or serve in individual bowls. Garnish with chives. Serve immediately. A variation is to add 1/4 pound ham, cooked and julienned before heating and serving.

Resources:
Companion Plants, [www.companionplants.com](http://www.companionplants.com)
Crimson Sage, [http://www.crimson-sage.com](http://www.crimson-sage.com)
Wood Violet Herb Farm, [www.woodvioletherbfarm.com](http://www.woodvioletherbfarm.com)

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The Lawrence Review of Natural Products, March 1996


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