Chicory[1]

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INTRODUCTION

Chicory (*Cichorium intybus* L. #[3] CICIN), succory, blueweed, coffee-weed, blue sailors, bunk, or blue daisy, is familiar to many of us as an erect weed along roadsides or in fields, displaying small, startlingly bright blue flowers. Others of us may only have tasted its roots—roasted and ground into a bittersweet coffee substitute or additive: an essential component of the New Orleans brew served blacker than a hundred midnights in a cypress swamp. Along with its close relative endive (*Cichorium endivia* L.), chicory also has an important place in the salads of Europe and, increasingly, the United States. Both chicory and endive were indispensable in ancient and medieval herbal pharmacies and are still used medicinally today.



CHICORY'S EDIBLE HISTORY

The Roman writers Horace, Vergil, and Pliny mentioned chicory as a root and salad vegetable (9). Ancient civilizations all around the Mediterranean knew the plant and took sustenance from it.

Fresh greens and seeds of chicory cultivars are sold as *cicoria* or *radicchio* in Italy; these cultivars are at least as variable as those of lettuce, ranging from purplish pink to dark green and from tight, thick-leaved heads to loose bunches. The leaves are essential to Italian salads and may be served as pot herbs. In the United States, radicchio has begun appearing with regularity in grocery stores, as a component of fresh tossed green salads with a slightly bitter, distinctly "European" flavor.

Basal leaves are the part of fresh chicory usually eaten. However, like dandelion, chicory contains a milky, bitter sap which must be minimized if the fresh leaves are to be enjoyable. Young leaves and shoots are blanched by covering, similar to dandelion (12) or celery (1); this can be done by banking with earth mounds or straw, or simply by shading the plants with canvas or baskets (7). In addition, fall-harvested roots can be planted in an earth cellar, where they will produce sprouts during the winter (7). Cellar culture is used to produce a familiar chicory variety called French or Belgian endive (or witloof), which makes pale, yellowish heads about 6 inches long (1).

If wild chicory is to be served as a boiled green, Harrington recommends changing the water two or three times during boiling (7).

Chicory roots—generally gathered for eating before the flowering stems arise (2)—are reportedly tasty either fresh or processed. Many cultures simply boil and eat chicory roots like parsnips or carrots. The roots also can be dried, ground, and made into bread. In this form, chicory acts as a flavor enhancer; European chefs have long used it to add body to soups, meats, and vegetables (19). In the southern United States, ground chicory root was (and may still be) used as a common seasoning for stews and gravies (7). Roots were in such popular use in England as late as the early 1900's that they were used as an item of barter in some areas (2).



[1]No. 39 of the series "Intriguing World of Weeds." Illustration from Kains (8).

[2]Ext. Weed Sci., Div. Plant Biol., Univ. Calif., Davis, CA 95616.

[3]Letters following this symbol are a WSSA-approved computer code from Composite List of Weeds, Revised 1989. Available from WSSA, 309 W. Clark St., Champaign, IL 61820.

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Non-European cultures also make extensive use of chicory: Brenchley wrote in 1920, "It is even stated that this and some very similar plants constitute half the food of the Egyptians" (2).

The use of chicory root to make a coffee-like drink is probably more familiar to most Americans. Roots of chicory intended for this purpose are gathered after flowering, sometime in the fall (7). The roots are scrubbed or peeled, sliced, roasted, and coarsely ground (7).

The use of chicory in (or instead of) coffee followed upon the growing popularity of coffee itself in Europe. The taste of coffee, at first a strange new beverage, was compared with that of chicory as early as 1592 (18). By the end of the 1600's European monarchs could not resist taxing coffee to reserve it for nobility. In the mid-1700's a process for roasting and brewing chicory offered a coffee alternative for commoners, and chicory soon went into production throughout Europe (18). Necessity eventually gave way to preference, and chicory is still a favored addition to coffee in France and Belgium (18). Presumably the French influence made its way to Louisiana, now a stronghold of chicory coffee in the United States. [For a short history of the relationship between coffee and chicory, see Steiner's fascinating "The blue sailor: weed of many uses" (18).]

Whether using chicory root as a coffee additive or as a substitute, purveyors of the root have not always been strictly aboveboard about including it in the blend—especially in times when coffee becomes scarce.

As Brenchley wrote shortly after World War I, "Some people prefer ground chicory to genuine coffee, and others have a strong objection to it" (2); at any rate, he implied, coffee (or chicory) lovers deserved to know which they were getting. Toward the late 1800's, however, typical 'coffee' mixtures often consisted of such materials as clay, pea hulls, low-grade bran, molasses, or flour (8) in addition to chicory and perhaps less than 25% real coffee; some writers feel that chicory unfairly took the blame for the lack of flavor, 'chicory coffee' becoming a synonym for cheap and adulterated coffee (19).

In fact, Kains (8) points out that once chicory became popularly accepted, chicory itself was often adulterated. Sugarbeet roots were the least noxious of the possible substitutions—he cites "roasted cereals and legumes, spent malt and rye from the distilleries and breweries, date seed, cocoa shells, dried coffee grounds, vegetable ivory, dog biscuit, logwood and mahogany saw dust, spent tan bark, sand, brick dust, coal ashes, Venetian red, reddle, refuse bone black, baked livers and lungs, and even rope yarn, burnt rags, and crusts of bread picked up on the street" (8). [No thanks, I won't have a second cup.]

In 1869, almost 1.6 million kg of chicory were imported into the United States (18); in 1897, the total was over 7.7 million kg, overwhelmingly from Belgium (8). As late as 1942, the United States imported several million kg of chicory root each year (6). From the 1890's to the 1940's, chicory also was grown extensively in Michigan (13, 18, 19) and other states (8). In 1943, raw chicory root sold for about $16 a ton (19); the roasted product was not only used as a coffee component, but was sold in roll or tablet form for home use and shipped in bulk to bakers as a flavoring for dark rye and pumpernickel bread (19).

Chicory's culinary value is not limited to humans. In many parts of Europe, including England, France, Italy, and Switzerland, chicory has been cultivated for stock feed, especially for cows (2). Many European farmers consider hay produced from leaves and stems of chicory to be of greater quantity and quality than hay produced from alfalfa (17). Moreover, the dried roots contain a great deal of sugar, and have been used instead of oats for feeding purposes (2). In fact, during World War I the governments of Germany and Austria prohibited the use of chicory as feed owing to its greater value as a coffee substitute (2).

A brief survey of current agricultural literature reveals that chicory is now used in many countries. Most chicory is produced in France, Belgium, Hungary, Poland, and some western states of the former Soviet Union (18). Special cultivation methods are under investigation in these countries and in the United States, Italy, and the Netherlands; other interested countries include Norway, South Africa, Egypt, Yugoslavia, and India. Several South American countries are looking at chicory as a forage plant, and New Zealand is considering its value as an energy crop (5).

DESCRIPTION AND ORIGINS

Chicory is a perennial plant with a deep tap root, growing erect to 30 to 90 cm (15) or even to as tall as 1.8 m (20). It forms a basal rosette of dandelion-like leaves (10) 7.6 to 20 cm long (15). The smaller leaves on its erect stems are lanceolate or oblong, clasping (15) and sessile (20).

Chicory flowers from June or July to September or October. Its flowers are blue, sometimes purple, rarely white (20), with blue stamens. It bears flowering heads 2.5 to 3.8 cm across (10) in groups of 1 to 4 in axillary clusters; usually only one head in each cluster is open at one time (6), and the flowers usually close by noon (3). The average plant produces about 3000 seeds (10).

Regular readers of this column may already recognize a successful colonization story in the making—a typical combination of (a) widespread use by humans; (b) a Mediterranean origin, indicating adaptability to the world's temperate zones; and (c) a hardy perennial growth habit.

Chicory is indeed native to the Mediterranean region, according to most sources; some suggest it may have spread to much of Europe and much of western Asia to central Russia (9) before getting a 'boost' from human cultivation. Soon enough it was introduced as a garden plant and cultivated crop to North and South America, to eastern Asia, South Africa, New Zealand, and Australia (9). Its seed also traveled as a contaminant in clover and grass seed (10). By 1806, an agricultural journal of the English county of Essex described chicory as "indigenous to every lane and on the borders of most of the fields" (16).

Massachusetts Governor Bowdoin introduced chicory into the United States as a salad green in 1785 (8). In limited cultivation through the 1800's, it became a more popular farm crop in the 1890's and by 1898 was found in cultivation in Michigan, Massachusetts, New Jersey, New York, Pennsylvania, Wisconsin, Indiana, Illinois, Nebraska, California, and Oregon (8). It was usually grown alongside or in rotation with sugarbeets, a crop requiring very similar culture. By the 1940's it started to decline in production, and was no longer considered competitive with imported chicory by 1961 (18).

By the turn of this century wild chicory occupied the northeastern third of the United States—from Nova Scotia to Minnesota and south to North Carolina and Missouri (3). It is mentioned often in early 20th century literature as a particular problem in Wisconsin and Minnesota.

Now chicory is naturalized throughout the United States at lower altitudes (15), appearing to prefer limestone soil (13). It occupies roadsides and waste places (3), and can be troublesome in grain fields (15). It is especially common in areas of former cultivation (14).

Late in the 19th century, some authors considered Cichoriaceae a separate family. In the chicory family, Britton & Brown included 1400 species in 65 genera—among them *Taraxacum* (dandelions), *Senecio* (groundsels), *Lactuca* (lettuces), and *Picris* (oxtongues) (3). Now, of course, all these genera are placed in the huge family Asteraceae, the composites.

About nine species of *Cichorium* are recognized (1). We have already mentioned *C. endivia*, endive, an annual native of southern Asia with blue flowers similar to those of chicory.

CHICORY USED AS MEDICINE

The ancient Greeks knew chicory as 'kichora' or 'kichoreia'; to contemporary Arab physicians it was 'chicouryeh'—later 'chicourey' (9); and ancient Egyptians called it 'agon' (4). Romans called it 'intybus agrestis' (4). Our Latin name for the genus, not to mention our common English word for the plant, probably derives from chicory's Arabian appellation. Both the species name for chicory, *intybus*, and the word "endive" are modifications of the Middle Eastern word *hendibeh*, referring originally to both plants (16, 17).

In the first century A.D. the Greek herbalist Dioscorides wrote that 'seris' or 'picris' was to be found in two varieties: the wild kind—which he called 'pickris' or 'cichorum'—and a domestic version. He described the wild variety as narrow-leaved and bitter, whereas the domestic version was tastier and more like lettuce. "But," he continued, "they are all of them binding, cooling and good for the stomach" (4). Dioscorides may have been describing chicory (his wild picris) and endive (the tame picris), or cultivated varieties of chicory may have existed even in ancient times.

Dioscorides made many recommendations for the medicinal use of chicory, most of them reiterated in herbals throughout the Middle Ages and beyond. One of his more unusual suggestions concerned using an ointment of ground chicory root to heal scorpion stings (4).

The Roman physician Galen (ca. A.D. 130–200) prescribed chicory as a liver tonic and used its bruised leaves in poultices to ease swellings and inflamed eyes (9).

Medieval doctors recommended chicory as a diuretic, laxative, and tonic, and, like Dioscorides, a "strengthener of weak and feeble stomachs" (9). Popular herbal wisdom of the 1300's to 1500's declared that food had a strong effect on mood—and through mood, the health of the body. During this time, lettuce and

chicory were both considered tranquilizers (11). English herbals of the 17th century listed an abundance of benefits, both for liver and stomach ailments and for relief of external sores and swellings (9).

According to LeStrange, modern herbalists may, like their medieval predecessors, prescribe chicory root as a tonic, laxative, and diuretic; it may be decocted and taken for jaundice, liver troubles, gout, and rheumatism (9). These applications remind one of the uses to which dandelion is put (12); and indeed 18th century herbals equated the effects of chicory with those of dandelion (16). Herbalists also ascribe similar healing powers to endive (9).

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