CIR1191

English Ivies to Know and Grow [1]

R.W. Henley and R.J. Black[2]

The term "ivy" is somewhat ambiguous since there are over 25 different species of cultivated plants grown in the United States which bear the name ivy as part of their common name. English ivy, botanically classified as *Hedera helix* , is the most popular ivy grown in the United States. It is used extensively in many areas for landscaping and indoors in a variety of creative ways.

The genus *Hedera* is a member of the aralia family (*Araliaceae*). It is composed of several species of woody vines with alternately-arranged, evergreen, lobed leaves with palmate venation. Depending upon the authority consulted, the number of recognized species of *Hedera* varies from five to ten or more. Of these species, English ivy (*H. helix*) is produced most extensively by commercial growers in the United States, with Algerian ivy (*H. canariensis*) being a distant second. There are many named cultivars of English ivy which differ in leaf size, leaf shape, leaf color, plant growth habit and growth rate. The American Ivy Society has adopted a simple ivy classification system useful to horticulturists which is based on the shape, size and color of the leaves (Table 1).

Cultivars (cultivated varieties)

The number of named English ivy cultivars in the trade is lengthy and the nomenclature is not clear in all cases. The large number of names is due primarily to the frequency with which chimeras (a plant consisting partly of mutated cells and partly of nonmutated cells) appear and shoots develop with new characteristics. Hybridization of English ivy has not been used as a method of generating new cultivars. Part of the nomenclature confusion is attributed to persons renaming plants which already have legitimate and registered names. A listing of some important commercial cultivars produced in Florida with some of their characteristics is presented in Table 2.

Most English ivy in the trade is in its juvenile form which is vine-like, usually with lobed leaves, and without flowers. Very old specimens of English ivy trained on walls, trees or other upright supports will often convert to the mature (adult) form which has thickened-erect stems, non-lobed leaves, and flowers. Juvenile ivy cuttings root relatively easily compared to cuttings taken from mature ivy plants. Plants propagated by cuttings from mature plants retain mature plant characteristics.

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2. R.W. Henley, Professor and Extension Environmental Horticulturist, and R.J. Black, Associate Professor and Extension Environmental Horticulturist, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.

Uses of Ivy in the Landscape

Ivies are used outdoors as ground covers and are trained on walls, fences, posts and trellises. Ivies are also used effectively in window boxes, urns and other elevated planters where the vines cascade from the containers. Properly used in the landscape, ivy adds line, texture, and color to visually soften structural elements and add pattern to a landscape design.

Container gardening with ivy adds interest to a landscape. Pots of approximately three- to seven-gallon capacity should be used to assure enough depth for drainage and a sufficient volume of potting medium for an adequate moisture supply. The containers can be placed on shaded patios, under trees, in beds of ground cover, along steps, or other locations where they contribute to a design. Use of large potted ivies permits the use of several different cultivars of ivy on a single premises and gives the owner the flexibility of modifying a design by moving the containers.

A specialized application of ivy is topiary. With conventional topiary, plants growing in the ground or in large containers are trained up onto firmly anchored metal frames engineered to support the weight and distribution of vines to create formal shapes. Topiary frames are designed to resemble many geometric forms, animals and an array of other objects. Cultivars selected for topiary should be ones which are moderately vigorous and produce numerous lateral branches. The leaf size should be adequately fine to be in scale with the size of the figure. Large-leaved ivy on a small figure results in a rough texture which masks the detail in small topiaries. With larger frames, the large-leaved ivies are not a problem. Considerable labor and skill are required to train the vines so they produce the desired pattern and density to complete high quality ivy topiaries. Once completed, it is necessary to clip and continue to train a few vines to fill voids or otherwise modify the plant sculpture. Finished topiaries can be purchased from garden centers or other retail garden outlets, or individuals can purchase or build frames and grow their own topiaries.

A second topiary technique, sometimes referred to as preformed topiary or instant topiary, involves the use of frames similar to those used for conventional topiary except wire mesh is attached to the basic frame to support a layer of sphagnum moss used to retain a peatlike medium inside the frame. The layer of sphagnum can be secured with monofilament fishing line wrapped over the moss and tied to the wire frame. Instead of planting the ivies at the base of the frame, plants are installed through the sphagnum layer into the peatlike medium inside the frame.

When preparing large frames for planting using the preformed topiary procedure, it is desirable to either place a core of polystyrene foam or other light weight material at the center of the large spaces inside the frame or install a second layer of wire mesh about two to three inches inside the outer layer of wire mesh and line it with sphagnum to create a space for the peatlike medium. Preformed topiary is more difficult to manage over the long term since the peatlike medium and the sphagnum moss break down after approximately two years to the extent they lack the original water-holding capacity and physical support for the plants. Since both of these materials are difficult to replenish on established topiaries with extensive root systems, this should be a consideration when selecting the type of topiary to grow.

Although rarely done, English ivy can be grafted to the more robust stems of aralia ivy (*Fatshedera lizei*). It is actually a hybrid resulting from a cross of plants from two genera, *Fatsia japonica* and *Hedera helix* . Grafts of English ivy to aralia ivy can yield attractive tree forms or topiary subjects which are supported by the trunk of the understock. In cases where the variety grafted to the top (scion) becomes very large, it may be necessary to use a stake along side the trunk to provide additional support of a large canopy. The practice of making tree forms by grafting is rarely feasible commercially because of the high labor requirement and the slow growth of the scions. Since aralia ivy is less cold hardy than the English ivy cultivars, grafted plants may be containerized and used outdoors while it is warm and moved indoors or other protected locations during cold weather.

Planting and Care of Plants Outdoors

Cold hardiness of ivy can range from USDA cold hardiness zone 4 (average annual minimum temperatures of -20 to -10°F) to zone 8 (average annual minimum temperatures of 10 to 20°F) because hardiness is highly dependent upon the cultivar. The most cold hardy cultivars can be used in northern landscapes where temperatures drop to approximately -20°F for brief periods. Most cultivars used as potted foliage plants are not as hardy as those traditionally used in the landscape, but should withstand 10 to 15°F if acclimatized to some cold weather prior to being exposed to sub-freezing temperatures.

In the South, heat stress resistance is a more important consideration to cultivar selection than cold hardiness. The light intensity and heat are excessive for many cultivars to be grown in full sun exposures. The planting site for ivies should be partially-to-fully shaded for best results.

Ivies grow best on sites where the soil is well aerated and drains freely and where the water table is several feet below the root zone. If the soil remains wet for extended periods, oxygen becomes limiting, and root rot pathogens frequently destroy the root system. During periods of high temperature and heavy rainfall, many cultivars are prone to infection with one or more bacterial and fungal pathogens which attack the foliage.

Plants obtained from garden centers or retail nurseries for planting in the ground should be set about one to two inches deeper than the upper layer of the potting medium to insure additional interfacing of the stem with the fill for additional root development. There can also be rapid loss of water from the original root ball when the original root ball is at the surface acting as a wick. English ivy is not forgiving to extreme drought. As vines extend out from the initial point of planting, sections of the vine can be bent down and covered with soil to encourage additional root development. Such practice will provide a dense network of stems and foliage desirable in ground cover plantings.

English ivy requires a modest amount of fertilizer to remain healthy. Application of a complete fertilizer with a ratio of 3:1:2 or 3:1:3, such as 12-4-8 or 15-5-15, at the rate of one pound of nitrogen per 1200 square feet is recommended to assure moderate vigor. Controlled release fertilizers are best on very sandy soils where most of a soluble fertilizer will be leached past the root zone in a single heavy rain. Where more organic matter or clay is present in the soil, the soluble fertilizers (liquid or granular) are more economical to use. Two applications (spring and fall) are recommended for established ivy beds and a third (summer) application may be used for the first year.

When growing on a good site, ivy can be vigorous and require pruning. Edging a ground cover bed is a relatively simple process whether it is done by hand or machine. It may also require hand pulling those severed vines which have rooted in the soil beyond the bed. Other vines trained against walls or ascending tree trunks should be clipped and selectively stripped from their supporting surface. Walls with just enough vine attached to create a line pattern are more interesting than walls which are completely covered. The same can be said of tree trunks and other vertical treatments. The thickness of a ground cover bed increases with time if the growing conditions are good. It is desirable to thin the bed periodically by pruning off some of the upper layers of vine to permit rejuvenation of the remaining vines.

Uses of Ivy Indoors

English ivy is one of a few temperate zone plants which is used successfully indoors as a foliage plant. It is an excellent plant for hanging planters and other applications which require a cascading or trailing plant. It is also used effectively as a potted plant, in dish gardens and in other combination planters. Some specialty growers offer a wide range of topiary forms using some of the small-leaved cultivars in most cases. Ivy makes a good ground cover for interior planting beds and the soil surface of large free-standing planters containing interior trees. The plant can also be trained into formal shapes on trellises and made into topiary figures. Depending upon a particular application, some cultivars are much superior to others. Those with a strong interest

in some of the unusual varieties of ivy can usually acquire them through mail order nurseries.

A discussion of the indoor uses of ivy would not be complete without indicating that vines of many cultivars are used effectively in arrangements with cut flowers and other materials. The vines add interesting lines to an arrangement and the leaf size, shape and color will influence the contrast of texture and color in a design.

Care of Plants Indoors

Most commercial English ivy growers root and grow their plants in well-drained, peat-based potting media which have a high water-holding capacity. If it is desirable to repot newly acquired plants in more decorative pots, be sure to use a potting medium of similar quality, usually available at your local garden center.

Placement of ivies in south- and west-facing windows where they receive direct sun should be avoided, otherwise the foliage will become pale or develop necrotic areas. Ivy can be grown in medium to bright filtered light very successfully. The plants may be grown under sunlight, electric lamps, or sunlight may be supplemented with electric lighting. Fluorescent tube lamps are the most popular, although incandescent sources can be used. Fluorescent lamps are more energy efficient and give off less heat which can burn the plants if they are too close. Be sure the plants receive sufficient light energy to grow, regardless of the source. Indoors, the plants should be exposed to about 75 foot-candles or more of light for a period of 10 or more hours per day. Rapid growth indoors is rarely considered desirable. If potted plants are shifted from an indoor environment to the outdoors, they should be placed in a shaded location to avoid burning the foliage with direct sunlight.

Indoors, ivies can be fertilized at the rate of one teaspoon of a 20-10-20, 20-20-20 or similar analysis per gallon of water applied to saturate the potting medium. Six to eight applications per year will be sufficient to keep the plants healthy. In bright light situations where 10 percent or more of the applied water leaches through the container where it is no longer available to the plant, the frequency of fertilization can be doubled. Care should be taken to avoid excessive fertilizer in the root zone because ivies are more sensitive to high salinity than many other house plants.

Although cut stems of some English ivy varieties can be rooted in tap water and live in that water for months, potted ivies need a well drained medium and should never be left standing in drainage water. The plants grow well if they are permitted to cycle through periods where the upper layer of potting medium is permitted to become dry but toward the bottom of the container there should be a modest amount of moisture. Extreme dryness of the entire root zone is very detrimental to English ivy. As general rule, irrigate the plants just before they begin to wilt. One can soon determine if a plant needs watering by lifting it and judging its weight.

Potential Plant Disorders

- Loss of variegation in young leaves
    - Symptoms - Some of the variegated cultivars will lose most, if not all, of their color pattern in young foliage when placed in very deep shade. This is most frequently observed during winter
    - Control - Since changing the level of shade or shifting plants to brighter light restores the typical color pattern in young leaves, it is not regarded as a serious problem.
- Loss of variegation in older leaves
    - Symptoms - Another type of leaf color shift is observed in the older leaves of some variegated cultivars, particularly the yellow and pale green patterns. The loss of variegated pattern is associated with leaf age and is accelerated by low light levels.
    - Control - Grow only those variegated cultivars which retain the desired color pattern as the leaves age.
- Permanent change in leaf color or significant change in leaf shape

- Symptoms - One or more shoots on a plant will develop with leaves which are distinctly and genetically different from the rest of the plant. Differences in leaf color pattern and leaf shape are relatively common in certain cultivars and the process often yields new cultivars. However, the development of numerous variants is not a desirable cultivar trait since most variants are less desirable than the original cultivar.

- Control - Prune out the unwanted growth. Use only cuttings with leaves typical of the cultivar for propagation. Some cultivars, such as 'Gold Heart' and 'Kolibri', are less stable than most others. Malformed growth may also result from application of improper pesticides.

- Slow growth and poor rooting of cuttings

  - Symptoms - Plants lack normal vigor and root slowly, a condition frequently observed during hot summer weather in the South.

  - Control - English ivy grows best when temperatures can be maintained below 90°F. Shading, keeping plants low in the greenhouse and supplementing ventilation with evaporative pads will help reduce high temperatures.

- Growth of algae on surface of older leaves

  - Symptoms - Green-to-black coating on leaves. The coating is often dark enough to mask the color of the ivy, particularly on variegated cultivars.

  - Control - Attempt to reduce humidity and amount of time free water is left standing on the foliage. Also, avoid leaving a liquid fertilizer film on leaf surfaces.

- Oedema

  - Symptoms - Oedema is most frequently observed on plants in greenhouses. Upper leaf surface develops chlorotic spots. The lower surface usually has water-soaked, blister-like bumps corresponding to the position of the chlorotic spots above.

  - Control - Minimize extreme fluctuations in soil moisture, light intensity and humidity. Since some cultivars are more prone to develop oedema than others, selection of oedema-resistant cultivars is the easiest strategy.

Insects and Mites

Aphids, caterpillars (worms), mealybugs, mites (broad mites, false spider mites, two-spotted spider mites), scales, shore flies, thrips (western flower thrips and banded greenhouse thrips) and silver-leaf whiteflies (sweet potato whiteflies) are pests of English ivy. For information on the identification and management of these pests consult your County Extension Agent.

Other Pests

Slugs and snails are also occasionally observed on the roots and foliage of English ivy. For information on identification and management of these pests consult your County Extension Agent.

Diseases

The following diseases of English ivy have been reported in Florida: Botrytis blight, Colletotrichum leaf spot (Anthracnose), Fusarium root rot, Phytophthora root and leaf spot, Pythium root rot, Rhizoctonia root rot and aerial blight, and Xanthomonas leaf spot. For more information on the identification and management of the pathogens which cause the above diseases, consult your County Extension Agent.

Sources of Ivy

Most garden centers, retail nurseries or garden departments of other types of retail stores stock English ivy for use as house or landscape plants. Commercial growers produce varieties that grow relatively fast and have been well received by retail buyers and customers. Since there are over 400 named cultivars of English ivy known to exist, it is reasonable to expect only the most common cultivars will be found in local retail outlets.

Those who are interested in acquiring some ivy cultivars not available from local retailers should consult the *Ivy Journal* of The American Ivy Society. It carries advertisements from several ivy specialists who sell a large selection of small plants on a mail order basis.

Suggested Readings

Fearnley-Whittingstall, Jane.1992. *Ivies* . Random House, New York, N.Y. 160 pp.

Pierot, Suzanne Warner. 1974. *The Ivy Book - The Growing and Care of Ivy and Ivy Topiary* . Macmillan Publishing Co., New York, N.Y. 164 pp.

Rose, Peter Q. 1996. *The Gardener's Guide to Growing Ivies* . Timber Press, Inc., Portland, Ore. 160 pp.

Sulgrove, Sabina Mueller. 1982. *The care of ivies and the American Ivy Society Ivy collection* , Second edition. The American Ivy Society, Dayton, Ohio. 16 pp.

Wellingham-Jones, Patricia (editor). *Ivy Journal* . Three issues per year. The American Ivy Society, Inc., P.O. Box 2123, Naples, Fla. 34106-2123.

Table 1.

Table 1. Classes of English ivy (*Hederahelix*) used by the American Ivy Society and examples of cultivars produced by commercial growers in Florida. [1]

Class	Cultivars
Adult (A): Leaves without lobes, lamina usually ovate to rhombic, shoots usually very stout and branches flower.	238th Street
Bird'sfoot (BF): Leaves with narrow lobes resembling a bird's track, including willow-like nonlobed leaves. The terminal lobe is long and narrow and the lateral lobes are usually oriented at right angles to the terminal.	Asterisk, Brokamp, Needlepoint, Ritterkreuz, Shamrock
Curlies (C): Leaves with ruffles, ripples or pleats.	Anne Marie, California, Gertrude Strauss, Ivalace, Manda's Crested, Telecurl
Fans (F): Leaves broad and fan-shaped with lobes of equal length.	California Fan
Heart-shapes (H): Leaves heart-shaped like a valentine or shield, including triangular, three-lobed with pointed or rounded leaves.	Deltoidea, Christian, My Heart, Ralf, Sweetheart, Teardrop
Ivy-ivies (I): Leaves typical of species, nearly flat, palmately lobed, with five lobes - a pronounced terminal, lateral, and recognizable basal lobes.	Gold Child, Hahn, Merian Beauty, Pittsburgh
Miniatures (M): Leaves less than 1/2 inch long of any shape.	Ivalace, Jubilee
Oddities (O): Plants with unusual form, such as fasciated stems or distorted leaves.	Small Deal
Variegateds (V): Leaves with multi-colored of shades of green or gray with white, yellow, or light green markings, or single colors other than green.	Gertrude Strauss, Glacier, Gold Child, Gold Dust, Gold Heart, Ingrid, Jubilee, Kolibri

[1]This system of classification is known as "The Pierot Classification System" (as amplified by the American Ivy Society, 1991).

Table 2.

Table 2. Descriptions of some ivy cultivars grown in Florida.[1]	
Cultivar name	**Cultivar description**
Algerian Ivies (*Hedera canariensis*) Two Algerian ivies were included on this list because they are used in place of English ivy for some applications in some areas of the United States.	
Hedera canariensis	The species has large, three-lobed leaves with long burgundy petioles. The strong vining habit and long internodes give this species an open appearance.
Gloire de Marengo	This cultivar of Algerian ivy has the same large leaf, burgundy petioles and stems and widely-spaced leaves as the species. The foliage is variegated with an ivory white, irregular margin. The center of the leaf is primarily dark green with a few sectors of medium-to-light-green.
English Ivies (*Hedera helix*)	
Anne Marie (C).	Anne Marie has apple green, chartreuse, and green or gray leaves with wide creamy margins. The leaves are slightly curly.
Asterisk (BF)	This cultivar has five to seven long narrow lobes. The leaves resemble an asterisk symbol.
Brokamp (BF).	This cultivar has stout stems and long tapering narrow leaves three to four times as long as broad. Some leaves have one or two basal lobes. The plant was previously called Imp.
California (C)	Curly ivy with medium-sized leaves, strongly self-branching, with five broad lobes and heart-shaped leaf base. Lobe tips are rounded and veins slightly raised.
Christian (H,M)	Christian has small leaves with three rounded lobes.
Deltoidea (H)	This cultivar of *H. hibernica* has valentine-shaped nonlobed leaves or three round-lobed leaves. The basal lobes often overlap. This cultivar is called sweetheart ivy by most florists.
Florida	Refer to Ritterkreuz, which is the correct cultivar name.
Gertrude Strauss (C, V)	Gertrude Strauss is a curly variegated ivy which is believed to have arisen from Harold. It has a mottled green-on-cream pattern, with a nearly all green and gray center and a wide white margin.
Glacier (V)	Glacier foliage has three to five lobes and shallow sinuses which gives the leaf a triangular shape. Much of the leaf is gray-green with lighter gray patches. Leaves are partially trimmed in white.
Gold Child (V,I)	Gold Child has medium to large leaves, typically ivy-shaped, 1 to 1-1/4 times as long as wide. The leaves have five broad lobes which are rounded. Occasionally the basal lobes are visible only as slight protrusions from the heart-shaped leaf base. Variegation is bright greenish-gold, but the center is splashed with various shades of gray.

Table 2.

Gold Dust (V,I)	Gold Dust has typical ivy-shaped leaves with variegation of green splotches on gold. Best color in good light and the gray patches are more obvious when grown outdoors.
Gold Heart (V,I)	Leaves of this cultivar are small, widely spaced on pink to maroon stems, with bright yellow-blotched center of the leaf.
Greenheart	Refer to Ralf which is the correct cultivar name.
Ingrid (V,I)	This cultivar has small leaves with creamy white margins and gray-splashed center. It is occasionally sold as Ingrid Liz in the trade.
Ivalace (C, M)	Ivalace has very lustrous, small, dark green leaves with margins curled upward.
Jubilee (V, M)	Jubilee has densely arranged leaves of irregular shape with white edges and gray-splashed centers. The plant has a flattened branch system.
Kolibri (V, M)	Most of what is sold as Kolibri in Florida is actually Schaefer Three. True Kolibri grows slowly and is very rare. It has small, very white leaves with bright to dark green flecks and some gray background patches. Schaefer Three has many of the characteristics of Kolibri. Since Kolibri is so widely used as the name for Schaefer Three, it is doubtful that Schaefer Three will ever be adopted by the horticultural industry. In this publication Kolibri is used instead of Schaefer Three.
Manda Crested (C)	This ivy has curly, semiglossy leaves. Each lobe has a curly margin. This cultivar has been displaced in Florida nurseries by more ornate cultivars during the past 15 years.
Merian Beauty (M,I)	Small ivy-shaped or triangular three-lobed leaves on compact plants
Needlepoint (BF)	Needlepoint foliage has three prominent lobes and some leaves have two less conspicuous basal lobes. This cultivar is similar to Irish Lace, but has lighter green leaves and lacks the margins which are slightly rolled under.
Ralf (H)	This cultivar is incorrectly listed as Greenheart in many nursery price lists. Light greenish-yellow, heart-shaped, or with three rounded lobes; puckered new leaves with thread-like veins running nearly to the margins. Older leaves obscurely five-lobed with less prominent veining.
Ritterkreuz (BF)	This cultivar has three prominent, sharply-pointed lobes with two basal tooth-like lobes pointing away from the terminal lobe. Ritterkreuz is also sold under the name Florida.
Shamrock (BF)	The foliage of this fine-textured cultivar has five lobes, but the terminal and two lateral lobes are nearly equal in size, giving the appearance of a three- lobed leaf.
Sweetheart	Refer to Deltoidea, which is the correct cultivar name.
Teardrop (H)	Teardrop is a small ivy with teardrop-shaped leaves which are rarely lobed.

Table 2.

Telecurl (C)	Telecurl leaves are medium green, curly with a prominent, deep dip in the blade where the leaf stalk joins the base of the blade. They are 1 to 1 1/4 times as long as wide . Most leaves are three-lobed with the tips curved downward with a deeply heart-shaped leaf base.

[1] Most of the cultivars on this list are grown for potted plant and hanging basket and other indoor applications, but several may also do well in the landscape.