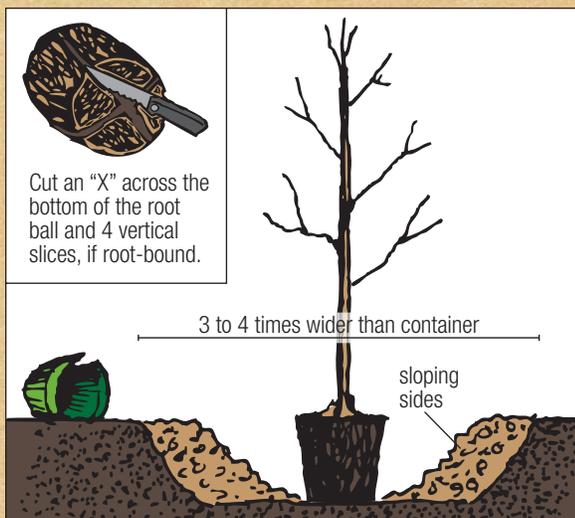


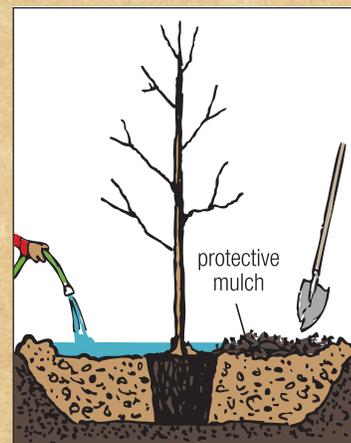
# How to Plant Containerized Trees

*Trees from nurseries are often potted in a container. These instructions are for planting containerized trees.*

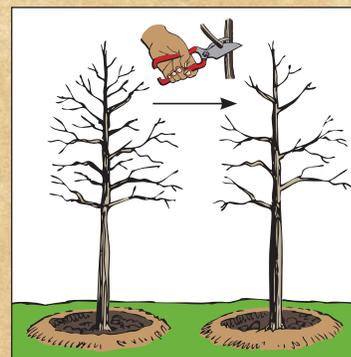
- 1 Dig a hole the same depth of the container and 3 to 4 times wider than the container. The hole should have sloping sides like a saucer to allow for proper root growth.
- 2 Lay the tree on its side and carefully remove the tree from the container, keeping the soil around the roots intact. It helps to tap the outside of the container to loosen the edge. Carefully slide the tree from the container. Don't yank the tree out of the container as this can separate the roots from the tree.
- 3 Sometimes containerized trees become root-bound or the roots look like they're about to circle the root ball. If your tree is like this, cut an X across the bottom of the root ball and four vertical slices along the sides of the root ball with a sharp knife.
- 4 Set the tree in the middle of the hole. Avoid planting the tree too deep. If the root collar sits below the top of the hole, compact some soil under the tree so that the root flare at the base of the trunk is slightly above ground level. Using some soil, secure the tree in a straight position, then fill and firmly pack the hole with the original soil, making sure there aren't any air pockets. Keep backfilling until the soil is just below the root collar.



- 5 Create a water-holding basin around the hole and give the tree a good watering. After the water has soaked in, spread protective mulch 2-4 inches deep in a 3-foot diameter area around the base of the tree, but not touching the trunk.



- 6 The soil and mulch around your trees should be kept moist but not soggy. During dry weather, generously water the tree every 7 to 10 days during the first year. Water slowly at the dripline.
- 7 Remove any tags and labels from the tree as these will affect the tree as it grows. You may need to prune any broken or dead branches. (Please refer to the [arborday.org](http://arborday.org) pruning guide.)



**Fertilizer?** DO NOT use fertilizer, potting soil, or chemicals on your newly planted trees. Such products will kill your young trees.



**Watering:** Keeping your trees watered is important during their first year. Keep the soil and mulch moist but not soggy. In dry weather, you should water generously every 7 to 10 days. The water should soak into the soil and mulch. Avoid watering so much that you see standing water.

# YAUPON

## *Ilex vomitoria* Aiton

Plant Symbol = ILVO

*Common Names:* yaupon, yaupon holly, cassena, cassina, cassine, cassio-berry bush, evergreen cassena, evergreen holly, Indian black drink, Christmas berry

*Scientific Names:* *Ilex vomitoria* Aiton

### Description

*General:* Holly Family (Aquifoliaceae). Yaupon is a native, perennial, evergreen shrub or small tree (8 m tall). The leathery leaf blades (1 to 2.5 cm long) are alternate, elliptical or oval with shallow teeth at the margins. The upper surface is a lustrous green with a lighter green lower surface. Yaupon is the only native plant in North America that contains caffeine. Flowers (5 to 5.5 mm) with four greenish white petals appear from March through May. Blooms appear on axillary clusters on year-old wood. Male flowers appear in clusters while female flowers grow either solitarily or in pairs. Young stems are covered with a purplish down which changes to whitish gray with age. The bark is light in color, from white to gray. The heartwood is hard and close-grained. Female plants have beautiful, round fruits that are a translucent red (5 to 6 mm in diameter) and contain four nutlets. The fruits frequently stay on the bush until the following spring.



*Distribution:* Yaupon occurs in the Coastal Plain of the southeastern United States. It is a common understory plant within this region from east Texas to Florida and northward to the Carolinas and southeastern Virginia (Miller and Miller, 1999). For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

*Habitat:* Yaupon generally occurs in the coastal plains region of the southeast on well-drained sandy soils. It can be found on the upper edges of brackish and salt marshes, sandy hammocks, coastal sand dunes, inner-dune depressions, sandhills, maritime forests, nontidal forested wetlands, well-drained forests and pine flatwoods.

### Adaptation

Yaupon is an extremely hardy plant, and is adapted to a wide range of environmental conditions. It has a low tolerance of CaCO<sub>3</sub> based soils and prefers soils with a pH from 4.5 to 7.0. Yaupon tolerates a wide range of soil types from tight clays to sand. It grows equally well in full sun and full shade, and tolerates hot droughty conditions as well as moist soils. Yaupon is tolerant of both hot and cold conditions and requires little moisture (NPIN, 2018).

### Uses

The showy red berries of yaupon attract wildlife and are an important food for many songbirds, gamebirds and waterfowl. Bluebirds, catbirds, mockingbirds, robins, yellow-shafted flickers, red-naped sapsuckers, yellow-bellied sapsuckers, white-throated sparrows and cedar waxwings are among the many songbirds that feed on the berries. Florida ducks, black ducks, mourning doves, ruffed grouse, bobwhite quail, and wild turkeys also consume the berries. Armadillos, black bears, gray foxes, western foxes, raccoons and skunks eat the fruits. White-tailed deer browse the foliage and twigs. The evergreen nature of the yaupon is important to wildlife as it provides cover during the winter months.

Yaupon's hardiness and evergreen nature make it an excellent plant for landscaping. The dense branching nature of this species along with its evergreen foliage and bright red berries create dense, attractive hedges that make effective vegetative screens and barriers. Yaupon prunes easily and can be sculpted into interesting topiary plants. Because of its low moisture use and drought hardiness, it is an excellent choice for xeriscaping or areas where maintenance is difficult. Many commercial varieties have been developed for landscape use and are available from commercial growers (Dirr, 1998).

## **Ethnobotany**

Most, if not all, Native American tribes in the southeastern United States including the Caddo, Alabama, Cherokee, Creek, Natchez, and Seminole used Yaupon medicinally. A decoction was made from the leaves and shoots, called “black drink”, which was used medicinally, ceremonially, and as a social beverage. The leaves and shoots, which contain caffeine, were roasted in an earthenware container over a fire, much like coffee beans are roasted. The black drink was drunk socially and offered to visitors to indicate friendly intentions. Reports of emetic effects stem from early Spanish explorers’ accounts of the use of black drink during ceremonial use. Cabeza de Vaca observed Native Americans using the drink in ceremonies from 1528 to 1536 in East Texas (Vines, 1960) and Fray Andres de San Miguelin in 1595 in Georgia (Fuller, 2002). Both reported emetic effects after consumption of the drink, but it is not known if the ceremonial drink was combined with other plants containing emetic compounds (Vines, 1960). It was taken to cure “a tremor in the nerves.” The drink was used in ceremonial medicine as an emetic to “clear out the system and produce ceremonial purity.” In some tribes, women and boys were prohibited from imbibing the drink. The Florida Seminoles still brew a black drink for their annual Green Corn Dance, although it is not always made with yaupon, but from other plants. The bark was used to treat nightmares where the patient sees ghosts and talks during sleep. Sore eyes were treated with eyewash made by scraping off the inner bark and boiling it in water for several hours. The wood was used to make arrows and ramrods that were used in hunting and fishing. In addition to trading Yaupon with nearby neighbors, Native American tribes in the Southeastern United States probably increased the distribution of yaupon. There is evidence that they transplanted and cared for the trees (Hammett, 1992).

The use of yaupon to make tea is gaining popularity in modern times. The reports of emetic effects from early explorers has led to confusion concerning the actual effect of yaupon when consumed. Explorers’ accounts report emetic effects when used ceremonially, but their reported social use of the beverage with no ill effect contradict this. Modern chemical analysis of yaupon has found no emetic or toxic compounds, and caffeine concentrations are similar to many commercially marketed teas. It is likely that Native Americans added other plants with emetic effects to their ceremonial black drink or had emetic effects due to fasting before the ceremonies and consumption of large quantities of hot drink during the ceremonies (Fuller, 2002). The documented use of yaupon black drink by Native American tribes throughout the southeast as a routine social beverage for hundreds if not thousands of years supports the modern findings of no emetic compounds within the plant and its safe use.

## **Status**

*Threatened or Endangered:* no

*Wetland Indicator:* FAC

*Weedy or Invasive:*

This plant may become weedy or invasive in some regions or habitats and may displace desirable vegetation if not properly managed. Please consult with your local NRCS Field Office, Cooperative Extension Service office, state natural resource, or state agriculture department regarding its status and use.

Please consult the PLANTS Web site (<http://plants.usda.gov/>) and your state’s Department of Natural Resources for this plant’s current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

## **Planting Guidelines**

Yaupon is an extremely hardy, picturesque tree with an upright stature and irregular branches. The plants may be planted closely for use as screens, hedges and in mass plantings. They make good specimen trees and can be espaliered or used as a topiary plant. Yaupon is one of the toughest of the hollies, easy to transplant, medium to fast growing and grow well on a variety of soils. They can grow in dry to wet soils and are tolerant of salt spray. They make excellent plants for coastal areas but also do well a considerable distance from the coast. Yaupon is better adapted to warmer climates than other evergreen hollies. Be sure to include at least one male plant to insure adequate pollination for fruit set.

## **Management**

Yaupon commonly forms thickets by sending up suckers that sprout from the roots leading to its use as a vegetative screen. The tree responds well to pruning and shearing. Limbs may be removed to expose the bark, which is a lovely grayish white. Established trees require very little in terms of water or extra nutrients. Watering will help young plants establish and may help insure the health of mature plants during extreme drought conditions. Light fertilization will aid in growth and establishment, but is not necessary.

## **Pests and Potential Problems**

Yaupon has no serious pest or disease problems although leafminers have been reported to occasionally be a problem (Dirr, 1998).

## **Environmental Concerns**

Yaupon is native species adapted to the southeastern United States. There are no known environmental concerns with this species.

## **Control**

Yaupon commonly forms thickets by sending up suckers that sprout from the roots. Wildfire, timber harvesting activities, and sporadic prescribed fire can increase the stand density of yaupon creating an undesirable monoculture in the understory. A combination of routine prescribed fire and herbicide is the best method to reduce stand densities of yaupon in the understory. Conservationist and property managers should note that this species, even when green, will burn readily during prescribed fires and should be prepared to handle intense fires when this plant heavily populates the understory. Please consult with your local agriculture extension service for recommendations.

Please contact your local agricultural extension specialist or county weed specialist to learn what works best in your area and how to use it safely. Always read label and safety instructions for each control method. Trade names and control measures appear in this document only to provide specific information. USDA NRCS does not guarantee or warranty the products and control methods named, and other products may be equally effective.

## **Seeds and Plant Production**

Yaupon can be propagated from cuttings, seed, or transplants. Seed is hard and requires stratification and scarification to increase germination. Seed may be harvested from plants when berries are mature and planted immediately into pots that are left outside to over winter. Germination from direct seeding will is slow. Scarification by briefly soaking the seed in concentrated sulfuric acid will reduce the time needed for seed to germinate (NPIN, 2018).

Cuttings maybe established in a flat tray at least 6 inches deep and placed in a mixture of 1-part peat and 3-parts sand. A rooting hormone will help induce root production. The cuttings should be held in a humid environment with temperatures from 65-75° F for 60-90 days. Once growth starts and the cuttings are firmly rooted they can be transplanted to desired location (Vines, 1960).

Root suckers and small seedlings may be dug near mature trees and have a high rate of success when transplanted. Dig new material when the ground is moist, and transplant to a pot or desired location. Keep transplants moist to reduce transplant shock.

## **Cultivars, Improved, and Selected Materials (and area of origin)**

Many commercial cultivars of yaupon are available commercially from nurseries and commercial growers. They include, but are not limited to: 'Folsom Weeping', 'Grey's Little Leaf', 'Jewel', 'Nana', 'Pendula', 'Poole's Best', 'Pride of Houston', 'Shadow's Female', 'Shillings/Stokes Dwarf', 'Straughn's', 'Yawkey', and 'Yellow Berry'. Cultivars should be selected based on the local climate, resistance to local pests, and intended use. Consult with your local land grant university, local extension or local USDA NRCS office for recommendations on adapted cultivars for use in your area.

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