



## Barrier Plants

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Home and property security is a major concern of homeowners. To help deter intruders, property owners install alarm systems and lighting in and around their homes and construct walls, fences, and trellises. In addition to these precautionary practices, proper landscaping can help thwart intruders. Having your home professionally landscaped or following good landscape design principles can help discourage intruders. A thoughtfully landscaped, well maintained yard sends a message that the owners are attentive to their surroundings.

Most thefts from homes are crimes of opportunity. Police security experts describe three conditions that result in property crime: (1) an easily entered home, (2) no one at home and nobody nearby, and (3) someone who wants to commit the crime. The more measures we use to deter a criminal from choosing to invade our property, the safer our homes will be. The use of security landscaping involves both selecting specific defensive plants and managing the existing landscape. In addition to making your home more secure, choice of plants can also make it more attractive.

### How landscape plants can help

Crime prevention through environmental design incorporates defensive plants that discourage intruders while at the same time keeping views open. Thorny landscape plants act as natural barriers to limit or deter unwanted entry to your property. Prickly bushes used as hedges or at strategic locations make access more difficult for intruders and help make a place look less attractive to a potential intruder.

The overall design of the landscape and the environmental and social qualities of plants can affect the behavior of

people both inside and outside the property. These may include shade from trees, cooling, filtering of dust from shrubs, and erosion control from groundcovers and shrubs, along with the textures, colors, and smells of plants. Landscape plants must not aid the intruder by acting as screens to shield them from view when entering a property or breaking in to a structure. Use of fences, walkways, paved areas, and plantings, such as the way plants are grouped together, convey territoriality and help create a defensive environment. Prickly or thorny plants act as psychological and physical barriers and render a property a less suitable target to the opportunistic burglar.

### Characteristics of security plants

Plants are effective deterrents due to their thorns, spines, or teeth-like leaf edges and by their bulk and density.

#### *Thorns and spines*

Thorns or spines can stop someone from passing through the plant or a hedge. Barrier plants typically have thorns and a dense structure. Although these barrier plants should impede unwanted access, they should not cause harm to pets, residents, innocent passersby, or the environment. Some cultivars or varieties of a plant species have thorns, whereas others do not.

#### *Leaf edges*

Security is not due entirely to thorns and spines; leaf edges also have an effect. Some plants have spiny teeth at the leaf margins, or the leaf terminal can be sharply pointed.

### **Integrating barrier plants into a landscape**

Place barrier plants in the landscape with some consideration of landscaping principles. Generally, barrier plants help define the internal or external boundaries around homes and in gardens. As an internal marker, they form borders, separate beds in gardens, line paths, and divide areas. In addition to such plants helping control access points onto and within property, they reduce concealment of and loitering by unwanted intruders.

Selection and placement of barrier plants are critical to their success. Will these plants be a danger to the homeowners themselves? Will plant size, especially at maturity, create hiding places and block views? Will the plant prevent good air circulation around the house? Will the plant prevent easy movement of the homeowner? These are just a few things that need to be considered when selecting the right plant for the place and purpose. Choose the plant species and location of planting carefully, and consider plant management and development.

### **Use with other structures**

Spiny plants are visual deterrents and physical barriers that are useful as complements to but not replacements for traditional security measures. Security landscaping used with appropriate fences provides an extra level of security by limiting access over fences. Place plants with barbs, thorns, or dense foliage at the base of a privacy fence or along fences, walls, or trellises.

### **Hedges**

Choose defensive plants that are thorny or difficult to walk through. Prickly plants make very effective deterrent hedges. Growing a prickly hedgerow and installing a gate may be a great combination for eliminating unwelcome visitors. To deter pedestrian traffic, grow plants to at least knee height. Try to keep the hedge short at the front of the house to allow visibility of the street. The depth or width of the hedge is important to ensure adequate air circulation and access for maintenance.

### **Protect/defend vulnerable areas**

Positioned correctly, barrier plants can provide effective perimeter security. For vulnerable entry points to your property or home, choose defensive plants that make it difficult to walk through. Position suitable plants strategically to protect vulnerable areas. For example, grow plants in security-sensitive areas such as around entryways that are hidden from neighboring views. Barrier

plants deter people from climbing drainpipes or roofs. By planting thorny shrubs in areas where trespassers can gather or cut through, one can make a home less of a target for burglary.

One of the best places to plant thorny shrubs is under a window. Windows provide easy access into a home, and the use of thorny shrubs under a window can help prevent burglars from entering. Keep them trimmed small enough, or better yet choose the right plant for the intended barrier space, to allow visibility from the windows and to deter intruders from hiding behind them. In addition, keep the shrubs trimmed below the windowsills so you could jump over the plantings to escape a house fire. Distance between the shrub and the wall of the building is important to maintain proper air circulation and access for maintenance.

### **Suggested plants**

In choosing to use barrier plants, consider these cautions:

- No alarm or security system is foolproof.
- Barrier plants are a supplemental means of protecting your property but should not be the sole means.
- Some plants, when allowed to grow to their full, natural dimensions, may be difficult to prune.
- Do not use barrier plants that may impede normal public access routes.
- Do not use plants that are likely to cause harm to innocent passersby.
- There may be legal or medical drawbacks to having dangerous plants on a property.
- Some homeowners associations may impose restrictions on the types of plants that members can use.
- Invasive plant species pose environmental risks and should be avoided. The Hawai'i Noxious Weed List, the Hawai'i Alien Species Coordinator list, and the Hawai'i -Pacific Weed Risk Assessment (HP-WRA) websites are sources of information about species invasiveness.

Within the context of the HP-WRA, *invasive* means spreading beyond the intended area of cultivation and having significant ecological or economic impacts as a weed. Species listed that are designated “\*L” have been scored as *low risk* (unlikely to become invasive in Hawai'i). Lack of any designation indicates that the plant has not yet been assessed. Details about HP-HWRA assessment can be found at [www.hear.org/wra](http://www.hear.org/wra). The Hawai'i

Invasive Species Council will schedule species for assessment upon request (contact hpwra@yahoo.com).

**Agave**—*Agave* spp., Agavaceae. These large succulents form a rosette of wide, strap-like leaves ranging in color from green to gray and variegated combinations. Agave grows well in sandy soils with good drainage. Among the most popular of the nearly 30 obtainable species are *A. americana* (century plant, malina) and *A. vilmoriniana* (octopus agave).

**Algaroba, kiawe**—*Prosopis pallida*, Fabaceae. Kiawe grows up to 50 feet high and thrives in hot, dry locations. It grows in deep soils but is tolerant of shallow, rocky soils. It has excellent drought and salt tolerance and moderate wind tolerance. Wild forms have spines, but most cultivated forms are spineless. Invasive.

**Blue hesper palm, Mexican blue palm**—*Brahea armata*, Arecaceae. This slow grower eventually reaches 40 feet high. The leaves attain their best color in full sun and with low rainfall. Only moderate watering is required. The petioles are armed along the margins with curved thorns, many of which branch into two points. \*L

**Bougainvillea, pukanawila**—*Bougainvillea* spp., Nyctaginaceae. These large, woody, climbing, shrubs are commonly used as fences and trellises but require good management. *B. spectabilis* is probably the most common of the three species and many varieties grown in Hawai'i. The thorns are actually flower axes that fail to develop.

**Boxthorn, Chinese box orange**—*Severinia buxifolia*, Rutaceae. This dense, low-branching, compact shrub has small, oval, glossy, dark green leaves closely spaced on slender, thorny branches. It has small, white, fragrant, orange-like blossoms. Growth rate is very slow. It can be used as a hedge or mass planting.

**Kaffir lime**—*Citrus hystrix*, Rutaceae. This small tree with dark, glossy, green leaves grows well in full sun to light shade with a moist, well drained soil. Its trunk and branches are armed with spines.

**Common aloe, pānini ‘awa‘awa**—*Aloe vera*, Aloaceae. This low or stemless succulent with prickly-margined, pointed leaves has yellow flowers borne on stalks up to about 3 feet tall.

**Cow's horn, big horned euphorbia**—*Euphorbia grandicornis*, Euphorbiaceae. A spiny, succulent plant with milky sap, it has a bushy growth habit, growing up to 6 feet high, and spikes that resemble the shape of cows' horns.

**Crown of thorns, Christ's thorn**—*Euphorbia milii*, Euphorbiaceae. This shrub grows to 5 feet high with an equal spread and may be used in a low hedge or bank cover. It flowers best when grown in full sun in a light, well drained soil. It has good drought, salt, and wind tolerance. Its stems are covered with rows of spines. \*L

**Dwarf date palm, pygmy date palm**—*Phoenix roebelenii*, Arecaceae. This palm is slow growing to 10 feet high. Easily grown, it is a good accent plant used individually or massed in a grove. It thrives in full sun or partial shade and needs well drained soil and ample water. Its basal leaflets are modified as spines. \*L

**Dwarf poinciana, ‘ohai ali‘i**—*Caesalpinia pulcherrima*, Fabaceae. This fast growing tree, up to 15 feet high, has bright flowers much of the year. It grows best in full sun in most soils and has good heat, drought, and salt tolerance. The stem, branches, and petioles are armed with sharp spines. It can be used as a hedge or screen. \*L

**Floss silk tree, silk floss tree**—*Chorisia speciosa*, Bombacaceae. A fast growing deciduous tree up to 50 feet high, it produces flowers ranging from white to pink in fall and winter before the onset of spring foliage. It has good drought tolerance and moderate salt and wind tolerance. The trunk is covered with stout spines. \*L

**Geometry tree, jucaro**—*Bucida buceras*, Combretaceae. This bushy tree grows up to 50 feet high and has an attractive branching habit. It has excellent wind and salt tolerance and moderate drought and shade tolerance. Spines are found along the branches. \*L

**Heart of flame**—*Bromelia balansae*, Bromeliaceae. This large, spiny-leaved plant with clumps of wavy long foliage spreads slowly by underground stems. It grows in dense thickets up to 3 feet high. The leaves have saw-toothed edges.

**Indian spurge tree, hedge euphorbia**—*Euphorbia ne-rifolia*, Euphorbiaceae. This erect-branching shrub/tree grows to 12 feet high and is used as a hedge plant. The thick stems have five spiral ridges with short, paired spines and leaves or raised leaf scars.

**Jacquinia**—*Jacquinia panamensis*, Thephrastaceae. A slow-growing woody shrub that grows up to 12 feet high, it has glossy, bright green, stiff leaves with needle-sharp spines at each tip. Small orange flowers lead to orange, marble-like fruits. Adaptable, growing in sun or shade, it is very wind and drought resistant.

**Japanese sago palm, king sago**—*Cycas revoluta*, Cycadaceae. This very slow growing cycad develops a stout 10-foot-high trunk with many offshoots and a dense crown of glossy leaves. It grows in sun or partial shade and needs well drained soil. It has moderate tolerance to drought and good tolerance to wind and salt. It often has serious problems with scale. The tips of its leaflets are sharp. \*L

**Kei apple, kei apple bush**—*Dovyalis caffra*, Salicaceae. This small, moderately fast-growing tree reaches to 20 feet high, with sharp, long stem spines in the leaf axils. Buds at the base of the spine produce clusters of alternately arranged, simple, glossy, ovate leaves. The fruit is an edible, bright yellow or orange, round berry. It is salt and drought tolerant and does well in full sun to light shade, requiring a well drained soil. It is used in hedges.

**Lantana, lakana**—*Lantana camara*, Verbenaceae. This fast-growing shrub grows to 6 feet high, producing flowers most of the year. It grows best in full sun in well drained soils and has good drought, salt, heat, and wind tolerance. The sterile forms are desirable. There are some seedless cultivars that are recommended; avoid the wild species, which is invasive.

**Limeberry, orange berry**—*Triphasia trifolia*, Rutaceae. This slow-growing, spiny shrub has dark green, three-parted leaves; small, white, fragrant flowers; and small, round, red fruits. It grows in full sun to partial shade and requires that the soil be kept moist. It has small thorns.

**Mottled candlestick tree, milk striped euphorbia**—*Euphorbia lactea*, Euphorbiaceae. A succulent, spiny,

cactus-like shrub with white milky latex, it has three or four-angled branches with black spines.

**Natal plum, carissa**—*Carissa macrocarpa*, Apocynaceae. A dense shrub with sharp, twice-forked spines; white, star-like flowers; and red, ovoid fruits 1–2 inches long, it makes a good hedge.

**Okinawan holly, Korean holly**—*Ilex dimorphophylla*, Aquifoliaceae. This erect, woody, cone-shaped shrub reaches up to 5 feet high and has small, shiny, deep green leaves; small, white flowers; and small, bright red berries. It grows best in full sun but has a slow growth rate. The juvenile leaves are very spiny, whereas the mature leaves have a single spine at the end of the leaf. \*L

**Oncoba, fried egg tree**—*Oncoba spinosa*, Flacourtiaceae. This shrub or small tree with white camellia-like flowers has spines at the base of the leaf stalks.

**Paurotis palm, Everglades palm**—*Acoelorrhaphes wrightii*, Arecaceae. This attractive, many-trunked, slender palm that grows to 40 feet high grows well in full sun and requires damp to wet soils. The leaf stalks are sharply armed with orange spines. It can be used as a hedge or thick screen. Flagged as “evaluate” by HP-WRA.

**Peach palm, peji-baye palm**—*Bactris gasipaes*, Arecaceae. The stem internodes of this palm are generally heavily armed with thin, strong, black spines of different sizes. The leaves are pinnate, generally with a spiny petiole and rachis, and frequently spiny leaflet veins and edges. It is well adapted to a wide range of environments but requires full sun and well drained soil.

**Pereskia, rose cactus**—*Pereskia grandifolia*, Cactaceae. A large shrub with clusters of pink or white, rose-like flowers, each about 1-1/2 inches in diameter, it bears spines that are characteristic of cacti. \*L

**Pygmy date palm, dwarf date palm**—*Phoenix roebelenii*, Arecaceae. This small, slow-growing, slender tree grows up to 10 feet high. Its delicate leaflets give it a graceful, lacy appearance. The lower leaflets are modified into sharp-pointed spines. \*L

**Pineapple, hala kahiki**—*Ananas comosus*, Bromeliaceae. A terrestrial herb about 2.5–5 feet high with a spread

of 3–4 feet, pineapple has a short, stout stem with waxy, needle-tipped leaves. Narrow, tapering, pointed leaves up to 40 inches long are arranged in a spiral rosette on a central stem. The leaf margins usually (but not always) have saw-toothed spines. The common cultivar Smooth Cayenne does not have saw-toothed leaf edges.

**Pomegranate, pomelaike**—*Punica granatum*, Punica-ceae. This spiny shrub has bright orange-red flowers and large edible fruits. \*L

**Roses**—*Rosa* spp., Rosaceae. Roses are attractive barrier plants for creating security. They can be planted in a hedge along a wall or fence. *Rosa multiflora* was rated High Risk by HP-WRA.

**Screw pine, hala**—*Pandanus tectorius*, Pandanaceae. This small, widespread tree is native to Hawaii and has stiff, spiny-margined, strap-shaped leaves and aerial prop roots. *P. pygmaeus* (small screw pine) is a dwarf pandanus growing to about 2 feet high. \*L

**Silver thicket**—*Euphorbia stenoclada*, Euphorbiaceae. A shrub with blue-green coloration and sharp, thick succulent spines, the new growth is green and soft but hardens in a few months. Eventually, it grows into a tree with a gnarled, woody stem, topped with a globe of spiny, blue leaves.

**Silver vase, urn plant**—*Aechmea fasciata*, Bromeliaceae. This epiphyte has leaves that form a vase-like shape with silver-gray, banded, saw-toothed leaf margins. The flower stalk emerges from a rosette of leaves. It can be used as a ground cover or border in light shade and where soil moisture is adequate. \*L

**Spanish bayonet, dagger plant**—*Yucca aloifolia*, Agavaceae. This plant's erect trunk is armed with sharp-pointed, dark green, straplike leaves. The tip of the trunk develops a long spike of white, purplish-tinged flowers. It prefers full sun but does well in partial sun. It is drought tolerant. Do not plant Spanish bayonet near walkways, patios, or in areas frequented by children and pets. This plant can inflict painful puncture wounds even through heavy clothing.

**Spiny licuala palm**—*Licuala spinosa*, Arecaceae. A densely clumping palm reaching 10 feet high with cir-

cular-shaped leaves that are segmented. It does best in wet soils in either full sun or partial shade. Protect from strong winds to prevent leaf damage. Spines are along trunks and leaf rachis. It is used as a hedge, screen, or barrier planting.

**Spiny xylosma**—*Xylosma congestum*, Flacourtiaceae. Shrub or small tree growing up to 15 feet high with sharp, slender, axillary thorns. Leaves are simple, shiny bright green, serrate margin, oval, pointed at tip; new growth is bronze or reddish. It has off-white colored flowers and black round berries. It grows in full sun to partial shade and can be used as a hedge.

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**Lantana—spines on stem**



**Caesalpinia pulcherrima**



**Pereskia—spines on stem (cactus family)**



**Pygmy date palm—leaves modified as spines**



***Chorisea speciosa***—thick spines on trunk



**Aloe**—toothed leaf margins



***Asparagus macowanii***—reversed sharp prickles along stem



***Cycas revolute***—leaflets have pointed tips



**Bougainvillea**—thorns are really flower stems that did not develop



**Yucca—leaf tips sharply pointed**



***Oncoba spinosa*—branches have spines to 2 in. long**



***Aechmea fasciata*—bract tips are sharp**



**Encephalartos—leaf tip sharp and edges with spines**



***Pithecellobium*—small-leaved plant from Koko Crater**





*Ilex dimorphophylla*—prickly juvenile leaves



*Erythrina* sp.—has sharp spines



*Neoregelia*—serrated leaf edge characterizes some bromeliads