



## *Acalypha wilkesiana* cultivar

Family Name: Euphorbiaceae

Common Names: Copperleaf, Joseph's Coat

Plant Growth Form: Shrub

Maximum height: 3.6 m

Maximum Plant Spread / Crown Width: 3 m

Origin: South Pacific Islands

Landscape Uses: Hedge; border; mass planting; container or above-ground planter; screen; Accent

Desirable Plant Features: Ornamental foliage

Light Preference: Full sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: 79%



## *Arundo donax* var. *versicolor*

Family Name: Poaceae (Gramineae)

Common Names: Carrizo, Variegated Giant Reed, Spanish Reed

Plant Growth Form: Shrub, Grass & Grass-like Plant

Maximum height: 6.1 m

Origin: Asia

Landscape Uses: Architectural accent / Screen

Desirable Plant Features: Ornamental Foliage

Light Preference: Full Sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: 96%



## *Axonopus compressus*

Synonyms: *Milium compressum*

Family Name: Poaceae (Gramineae)

Common Names: Tropical Carpet Grass, Wide-Leaved Carpet Grass, Cow Grass, Rumpu Parit

Plant Growth Form: Groundcover

Origin : South America, Mexico & Brazil

Landscape Uses: Permanent pasture, ground cover and turf in moist, low fertility soils, particularly in shaded situations

Light Preference: Full sun, semi-shade

Water Preference: Moderate water

Percentage of Nitrate Removal: 58%



### *Bauhinia kockiana* Korth

Family Name: Fabaceae (Leguminosae)  
Common Names: Kock's Bauhinia  
Plant Growth Form: Woody climber  
Origin: Peninsula Malaysia  
Landscape Uses: Container Planting, Trellis Planting  
Desirable Plant Features: Ornamental Flowers, Ornamental Fruits  
Light Preference: Full Sun  
Water Preference: Moderate Water  
Percentage of Nitrate Removal: Not Tested



### *Bougainvillea* 'Sakura Variegata'

Family Name: Nyctaginaceae  
Common Names: Bougainvillea  
Plant Growth Form: Scandent shrub  
Origin : South America  
Landscape Uses: Shrubs, Bushes, Groundcover, Trellis, Accent  
Desirable Plant Features: Ornamental Flowers  
Light Preference: Full Sun  
Water Preference: Little Water  
Percentage of Nitrate Removal: 96%



### *Bulbine frutescens* (L.) Willd. 'Hallmark'

Family Name: Asphodelaceae  
Common Names: Orange Bulbine, Orange-stalked Bulbine  
Plant Growth Form: Shrub (Herbaceous; Creeper)  
Maximum height: 0.3 m to 0.6 m  
Origin: Southern Africa  
Landscape Uses: Flowerbed / Border  
Desirable Plant Features: Ornamental Flowers  
Light Preference: Full Sun  
Water Preference: Little Water  
Percentage of Nitrate Removal: 68%





### *Chrysopogon zizanioides* (L.) Roberty

Family Name: Poaceae (Gramineae)

Common Names: Vetiver Grass

Plant Growth Form: Shrub, Grass & Grass-like Plant

Maximum height: 1.5 m

Origin: Tropical India

Landscape Uses: Hedge, Screening, Accent Plant, Borders

Desirable Plant Features : Strong, deep roots for soil stabilisation

Light Preference: Full Sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: 93%



### *Codiaeum variegatum* (L.) Rumph. ex A.Juss.

Synonyms: *Croton pictus*, *Croton variegatus*, *Codiaeum variegatum* var. *pictum*

Family Name: Euphorbiaceae

Common Names: Croton, Garden Croton, Puding, Joseph's Coat, Variegated Croton, Variegated Laurel, Joseph's Coat, Puding, Codiaeum

Plant Growth Form: Shrub

Maximum height: 3 m

Origin : South India, Ceylon & Malaya

Landscape Uses: Indoor, General

Desirable Plant Features: Ornamental Foliage

Light Preference: Full Sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: 67%



### *Complaya trilobata*

Family Name: Asteraceae (Compositae)

Synonyms: *Wedelia trilobata*, *Wedelia carnosa*, *Silphium trilobatum*, *Thel-echitonia trilobata*, *Sphagnetocola trilobata* (L.) Pruski

Common Names: Yellow Creeping Daisy, Singapore Daisy, Creeping Ox-eye, Trailing Daisy, Rabbit's Paw

Plant Growth Form: Shrub

Maximum Height: 0.15 m to 0.70 m

Maximum Plant Spread / Crown Width: 2 m

Origin: Central America, South America

Desirable Plant Features: Ornamental flowers, ornamental foliage

Landscape Uses: General, coastal, flowerbed / border, container planting

Light Preference: Full sun, semi-shade

Water Preference: Moderate water

Percentage of Nitrate Removal: 95%



### *Cordyline fruticosa* cultivar

Family Name: Agavaceae  
Synonyms:  
Common Names:  
Plant Growth Form: Shrub  
Origin: SE Asia & Papua New Guinea  
Desirable Plant Features: Ornamental Foliage  
Landscape Uses: General  
Light Preference: Full Sun, Semi-Shade  
Water Preference: Moderate Water  
Percentage of Nitrate Removal: Not Tested



### *Cordyline fruticosa* 'Firebrand'

Family Name: Agavaceae  
Common Names: Red Dracaena  
Plant Growth Form: Shrub  
Origin: SE Asia & Papua New Guinea  
Desirable Plant Features: Ornamental Foliage  
Landscape Uses: General  
Light Preference: Full Sun, Semi-Shade  
Water Preference: Moderate Water  
Percentage of Nitrate Removal: Not Tested



### *Cymbopogon citratus* (DC.) Stapf

Synonyms: *Andropogon citriodorum*, *Andropogon citratus*  
Family Name: Poaceae (Gramineae)  
Common Names: Serai, Lemon Grass, West Indian Lemon Grass, Oil Grass, Fever Grass, Serai Makan, Sereh Makan  
Plant Growth Form: Shrub, Grass & Grass-like Plant  
Maximum height: 1.2 m to 1.8 m  
Maximum Plant Spread / Crown Width: 1.2 m  
Origin : Southeast Asia  
Landscape Uses: General, Flowerbed / Border, Container Planting  
Desirable Plant Features: Ornamental Foliage, Fragrant (Flowers: Time Independent; Foliage)  
Light Preference: Full Sun  
Water Preference: Moderate Water  
Percentage of Nitrate Removal: 95%





### *Dianella ensifolia* (L.) DC.

Synonyms: *Dianella nemorosa*

Family Name: Phormiaceae

Common Names: Umbrella Dracaena, Common Dianella, Siak-siak, Flax Lily

Plant Growth Form: Shrub

Origin: East Tropical Africa, Madagascar

Landscape Uses: Parks & Gardens, Small Gardens, Interiorscape / Indoor Plant, Container Planting

Desirable Plant Features: Ornamental Foliage

Light Preference: Full Sun, Semi-Shade

Water Preference: Moderate Water

Percentage of Nitrate Removal: 44%



### *Dracaena marginata* 'Bicolor'

Family Name: Dracaenaceae

Common Names: Dragon tree, Marginate Dracaena

Plant Growth Form: Shrub

Origin: East Tropical Africa, Madagascar

Desirable Plant Features: Ornamental Foliage

Landscape Uses: General

Light Preference: Full Sun, Semi-Shade

Water Preference: Moderate Water

Percentage of Nitrate Removal: Not Tested



### *Dracaena marginata* 'Colorama'

Family Name: Dracaenaceae

Common Names: Rainbow Tree

Plant Growth Form: Shrub

Origin: Africa

Desirable Plant Features: Ornamental Foliage

Landscape Uses: General

Light Preference: Full Sun, Semi-Shade

Water Preference: Moderate Water

Percentage of Nitrate Removal: Not Tested





## *Dracaena reflexa* 'Song of India'

Family Name: Dracaenaceae

Synonyms: *Pleomele reflexa* 'Variegata'

Common Names : Song of India

Plant Growth Form: Shrub

Origin: South India, Ceylon

Desirable Plant Features: Ornamental Foliage

Landscape Uses : General

Light Preference: Full Sun, Semi-Shade

Water Preference: Moderate Water

Percentage of Nitrate Removal: 64%



## *Dracaena reflexa* Lam.

Synonyms: *Pleomele reflexa*

Family Name: Dracaenaceae

Common Names: Song of India, Pride of India, Song of Jamaica

Plant Growth Form: Shrub

Origin: Madagascar, Mauritius

Landscape Uses: Courtyards, Small spaces, Interiors, Borders

Desirable Plant Features: Ornamental Foliage

Light Preference: Full Sun, Semi-Shade

Water Preference: Moderate Water

Percentage of Nitrate Removal: Not Tested



## *Ficus microcarpa* 'Golden'

Synonyms: *Ficus nitida* 'Golden'

Family Name: Moraceae

Common Names: Indian Laurel Fig

Plant Growth Form: Tree

Maximum height: 10 m

Origin: India, Malaysia

Landscape Uses: House plantings, Hedge, Roadside Plantings, Bonsai

Desirable Plant Features: Ornamental Foliage

Light Preference: Full Sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: 68%



### *Galphimia glauca* Cav.

Synonyms: *Thryallis glauca*

Family Name: Malpigiaceae

Common Names: Shower of Gold, Rain of Gold

Plant Growth Form: Shrub (Woody)

Maximum height: 1.0 m

Origin : Mexico to Guatemala

Landscape Uses: Hedge / Screening, Groundcover, Container planting

Desirable Plant Features: Ornamental Flowers

Light Preference: Full Sun

Water Preference: Little Water

Percentage of Nitrate Removal: 65%



### *Ipomoea pes-caprae*

Family Name: Convolvulaceae

Synonyms: *Ipomoea pes-caprae* ssp. *Brasiliensis*, *Ipomoea biloba*

Common Names: Beach Morning Glory, Railroad Vine, Sea Morning Glory, Tapak Kuda, , Goat's Foot

Plant Growth Form: Groundcover

Origin: Native to Singapore

Desirable Plant Features: Ornamental flowers, ornamental foliage

Landscape Uses: Coastal

Light Preference: Full sun

Water Preference: Lots of water

Flower Colour(s): Purple

Percentage of Nitrate Removal: 95%



### *Ixora coccinea* 'Super Pink'

Family Name: Rubiaceae

Common Names: Ixora

Plant Growth Form: Shrub

Maximum height: 2 m

Landscape Uses: Hedges, Borders, Bushes

Desirable Plant Features: Ornamental Flowers

Light Preference: Full sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: Not Tested





### *Leucophyllum frutescens* (Berland.) I.M. Johnst.

Family Name: Scrophulariaceae

Common Names: Barometer Bush, Ash Plant, Cenizo, Texas Ranger, Texas Silver Leaf, Purple Sage

Plant Growth Form: Shrub (Woody)

Maximum height: 1.2 m to 2.4 m

Maximum Plant Spread / Crown Width: 1.5 m

Origin: Rio Grande Valley (Texas, New Mexico), northern Mexico

Landscape Uses: General, Coastal, Hedge / Screening, Flowerbed / Border, Container Planting

Desirable Plant Features: Ornamental Flowers, Ornamental Foliage, Ornamental Stems, Fragrant (Flowers: Day; [Remarks]: Peppery /spicy scent, reminiscent of carnations)

Light Preference: Full Sun

Water Preference: Little Water

Percentage of Nitrate Removal: 87%



### *Loropetalum chinense* (R. Br.) Oliv.

Family Name: Hamamelidaceae

Common Names: Chinese Loropetalum

Plant Growth Form: Shrub

Maximum height: 1.5 m

Origin: China

Landscape Uses: Hedge, Garden Plant

Desirable Plant Features: Ornamental Flowers, Ornamental Foliage

Light Preference: Full Sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: 71%



### *Melastoma malabathricum* L.

Family Name: Melastomataceae

Common Names: Common Senduduk, Singapore Rhododendron, Indian Rhododendron, Sesenduk, Malabar Gooseberry, Straits Rhododendron, Senduduk, Senduduk

Plant Growth Form: Shrub (Herbaceous)

Maximum height: 1 m to 3 m

Origin: Mauritius, Seychelles, Taiwan, Indian subcontinent, Indo-China, Malesia, Australia

Landscape Uses: Invasive / Potentially Invasive, [Remarks] (Considered weedy. May form thick thickets.)

Desirable Plant Features: Ornamental Flowers

Light Preference: Full Sun, Semi-Shade

Water Preference: Moderate Water

Percentage of Nitrate Removal: 68%





### *Murraya paniculata* (L.) Jack

Synonyms: *Chalcas exotica*, *Murraya exotica*

Family Name: Rutaceae

Common Names: Mock Lime, Kemuning, Mock Orange, Burmese Box-wood, Chinese Box, Orange Jasmine, Kemuning Lada, Orange Jessamine, Kemuning, China Box

Plant Growth Form: Shrub

Maximum height: 2.5 m to 3.5 m

Origin : South and South-east Asia, China, Australasia

Landscape Uses: Hedge / Screening, Topiary

Desirable Plant Features: Ornamental Flowers, Fragrant (Flowers: Day)

Light Preference: Full Sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: Not Tested



### *Nerium oleander* 'Pink'

Family Name: Apocynaceae

Common Names: Oleander

Plant Growth Form: Shrub

Maximum height: 6-7 m

Origin: Unknown, probably South-west Asia

Landscape Uses: Interiorscape/ Indoor Plant, Hedges, Borders

Desirable Plant Features: Ornamental Flowers, Fragrant

Light Preference: Full Sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: 88%



### *Ophiopogon jaburan*

Family Name: Convallariaceae

Common Names: Lilyturf, Mondo-grass

Plant Growth Form: Groundcover

Origin: Japan

Landscape Uses: Ornamental plants in gardening, houseplants

Desirable Plant Features: Ornamental foliage

Light Preference: Full sun, semi-shade

Water Preference: Moderate water

Percentage of Nitrate Removal: 77%





### *Osmoxylon lineare* (Merr.) Philipson

Synonyms: *Boerlagiodendron lineare*

Family Name: Araliaceae

Common Names: Green Aralia, Miagos Bush

Plant Growth Form: Shrub (Herbaceous)

Maximum Height: 3 m

Origin : South-east Asia

Landscape Uses: This species is used in Japanese-style gardens for its fine leaf texture.

Desirable Plant Features: Ornamental Foliage

Light Preference: Full Sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: 66%



### *Pennisetum alopecuroides* (L.) Spreng.

Synonyms: *Panicum alopecuroides*, *Alopecurus hordeiformis*, *Pennisetum hordeiforme*, *Pennisetum compressum*, *Pennisetum japonicum*

Family Name: Poaceae (Gramineae)

Common Names: Chinese Fountain Grass, Swamp Foxtail Grass, Swamp Foxtail, Chinese Pennisetum

Plant Growth Form: Shrub (Herbaceous), Grass & Grass-like Plant

Maximum Height: 0.6 – 1.5 m

Maximum Plant Spread/Crown Width: 0.5 m to 0.6 m

Origin: India, China, Japan, Myanmar, Philippines, Indonesia, Australia

Landscape Uses: General, Coastal, Flowerbed / Border, Container Planting

Desirable Plant Features: Ornamental Flowers

Light Preference: Full Sun

Water Preference: Lots of Water, Moderate Water

Percentage of Nitrate Removal: 93%



### *Pennisetum x advena* 'Rubrum'

Synonyms: *Pennisetum setaceum* 'Cupreum', *Pennisetum setaceum* 'Rubrum'

Family Name: Poaceae (Gramineae)

Common Names: Purple Fountain Grass, Red Fountain Grass, Rose Fountain Grass

Plant Growth Form: Shrub (Herbaceous; Creeper)

Maximum Height: 1.2 – 1.5 m

Maximum Plant Spread/Crown Width: 0.5 m to 1.2 m

Origin : Central Africa

Landscape Uses: General, Coastal, Green Roof, Vertical Greenery / Green Wall, Flowerbed / Border, Focal Plant, Container Planting

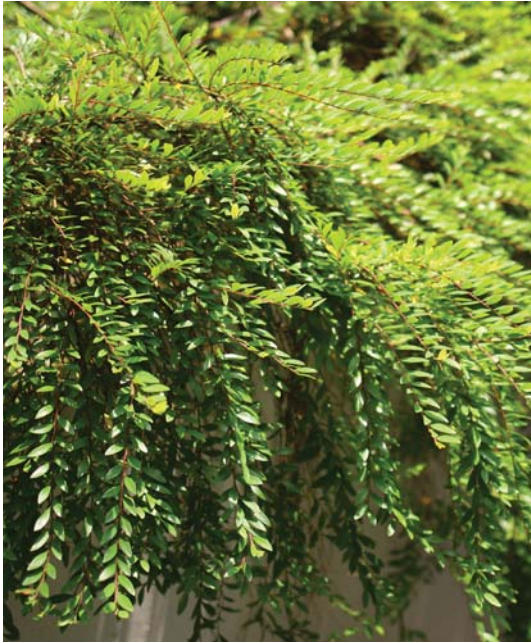
Desirable Plant Features: Ornamental Flowers, Ornamental Foliage

Light Preference: Full Sun

Water Preference: Moderate Water

Percentage of Nitrate Removal: 70%





### *Phyllanthus myrtifolius* Müll.Arg.

Family Name: Euphorbiaceae  
Common Names: Ceylon Myrtle, Mousetail Plant  
Plant Growth Form: Shrub  
Maximum Height: 0.5 m  
Origin: India, Sri Lanka  
Landscape Uses: Flowerbed / Border, Bonsai  
Desirable Plant Features: Ornamental Foliage  
Light Preference: Full Sun  
Water Preference: Moderate Water  
Percentage of Nitrate Removal: 55%



### *Pisonia grandis* R. Br.

Synonyms : *Pisonia alba*, *Pisonia grandis* 'Alba'  
Family Name : Nyctaginaceae  
Common Names : Lettuce Tree, Kemudu, Mengkudu, Moonlight Tree  
Plant Growth Form : Tree (Shrubby (1m-5m))  
Maximum height: 7 m  
Origin : Philippines, Sri Lanka  
Landscape Uses : Roadside Tree  
Desirable Plant Features : Ornamental Foliage  
Light Preference : Full Sun  
Water Preference : Lots of Water  
Percentage of Nitrate Removal : 2%



### *Rhodomyrtus tomentosa* (Aiton) Hassk.

Family Name : Myrtaceae  
Common Names : Kemunting, Rose Myrtle  
Plant Growth Form : Shrub  
Origin : China, India, South-east Asia  
Landscape Uses : General  
Desirable Plant Features : Ornamental Flowers  
Light Preference : Full Sun  
Water Preference : Moderate Water  
Percentage of Nitrate Removal : 1%



### *Sanchezia oblonga* Ruiz & Pav.

Synonyms: *Sanchezia speciosa*, *Sanchezia nobilis*

Family Name: Acanthaceae

Common Names: Zebra Plant, Yellow Sanchezia, Shrubby Whitevein, Gold Vein Plant

Plant Growth Form: Shrub (Herbaceous)

Maximum Height: 1-3 m

Origin: Ecuador, Northeastern Peru

Landscape Uses : Hedge / Screening, Flowerbed / Border, Intiorscape/ Indoor Plant, Container Planting

Desirable Plant Features : Ornamental Flowers, Ornamental Foliage

Light Preference : Full Sun, Semi-Shade

Water Preference : Moderate Water

Percentage of Nitrate Removal : 87%



### *Serissa japonica* (Thunb.) Thunb.

Synonyms : *Serissa foetida*

Family Name : Rubiaceae

Common Names : Japanese Serissa, Snowrose, Tree of a Thousand Stars, Japanese Boxthorn

Plant Growth Form : Shrub (Woody)

Maximum Height: 0.45-0.60 m

Origin : India, China, Japan

Landscape Uses : General, Coastal, Container Planting, Bonsai

Desirable Plant Features : Ornamental Flowers, Ornamental Foliage, Ornamental Stems, Fragrant (Flowers: Time Independent; Foliage; Stems)

Light Preference : Full Sun, Semi-Shade

Water Preference : Moderate Water

Percentage of Nitrate Removal : 71%



### *Scaevola taccada* (Gaertn.) Roxb.

Synonyms : *Scaevola sericea*, *Lobelia taccada*, *Scaevola frutescens*

Family Name : Goodeniaceae

Common Names : Ambung-ambung, Merambung, Pelampung, Sea Lettuce, Sea Lettuce Tree

Plant Growth Form : Tree, Shrub (Herbaceous; Creeper)

Maximum Height: 10 m

Origin : S.E.A. to tropical Australia, Micronesia, Melanesia, Hawaii and Madagascar

Landscape Uses : Coastal

Desirable Plant Features : Ornamental Foliage

Light Preference : Full Sun

Water Preference : Moderate Water

Percentage of Nitrate Removal : 88%



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## Examples of Issues Requiring Maintenance



Difficult to maintain when two or more types of groundcovers are planted in the bioretention system without landscaping bed divider or mulch to separate them



Turf grass and weeds are invading into shrubs planting strip, making it difficult for maintenance



Trash and debris should all be removed from bioretention area and disposed off site





The depth of stone mulch is not deep enough to stop weeds from growing. The minimum depth should be 100mm for effective control



While *Cymbopogon citratus* (Lemon Grass) is a popular plant species for landscape, it is prone to being cut and stolen by residents



Plant wastes should all be disposed off site to prevent nutrients leaching. Revegetation is required to cover all bare earth





## Bioretention System Maintenance Checklist

Site Name \_\_\_\_\_ Date \_\_\_\_\_

Constructed by \_\_\_\_\_ Date \_\_\_\_\_

Designed by \_\_\_\_\_ Date \_\_\_\_\_

Inspected By \_\_\_\_\_ Date \_\_\_\_\_

Checklist ID No \_\_\_\_\_

Weather (Rainfall past few days?) \_\_\_\_\_

Weather (Rainfall past few days?) \_\_\_\_\_

Maintenance Tasks	Inspection Frequency	Checked		Maintenance	
		Y	N	Needed	Done
Vegetation					
1 Watering if required - look for signs of water stress	M			Y/N	Y/N
2 Pruning - plant wastes to be removed off site within 24 hours to prevent nutrients leaching	M				
3 Mulching - all bare earth should be covered with mulch (min. depth is 50 - 100mm)	M				
4 Fertilising if required - ONLY use slow-release fertilizer	M				
5 Removing and replacing of dead plants ( approved plant species)	M				
6 Weeding may be needed during 1st yr where soil is not densely covered by plants	M				
7 Inspecting health of plants - look for diseases, employ non-chemical controls (biological, physical and cultural controls) before using chemical to treat a pest problem	M				
others					
8 Standing water - when water stands in the bioretention area and does not drain within 24 hr after rainfall	AHR				
9 Removing trash and debris (including dead leaves) - from bioretention area and disposed off properly	W & AHR				
10 Sediment deposition - material removed so that there is no surface clogging or blockage	W & AHR				
11 Erosion - channels have formed around inlets? Are there areas of bare soil, and/or other evidence of erosion?	W & AHR				
12 Drainage points - evidence of any blockages of inlet, outlet, overflow pits and balancing pipes	W & AHR				
13 Condition of drainage structures - damage / vandalism to structure present	M				
14 Mosquito breeding sites - clear fallen leaves, litter and stagnant water	W				
15 Repairing, reprofiling and revegetating of bioretention swale / basin to original design specification Ensure designed depth of bioretention system is maintained	Bi & AHR				

Bioretention System Maintenance Checklist

Comments:

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Dates by which maintenance must be completed:

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Inspector's signature:

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Approving officer's signature

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