

Weed Control In Turf - 2020

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Dept. of Tropical Plant and Soil Science
CTAHR - UH, Manoa



Topics Covered

- 1. Web based resources for weed ID and control recommendations**
- 2. Weed control in turf, considerations for maximum turf health**
- 3. Problem weeds in turf.**



Web resources for weed control. On-line Handbook of Hawaiian Weeds

<http://www.flickr.com/photos/uhmuseum/sets/72157616041949833/>

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Weeds of Hawaii

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Handbook of Hawaiian Weeds. Edited by E. L. Haselwood and G. G. Motter (1966).

Published for Harold Lyon Arboretum by University of Hawaii Press, Honolulu.

227 photos | 1,565 views

items are from between 06 Jul 2006 & 03 Aug 2006.



Tropical Plant & Soil Sciences Department
University of Hawaii at Manoa

Web resources for landscape weed control.

<http://www.flickr.com/photos/uhmuseum/sets/72157616041949833/>



Cuscuta sandwichiana

DODDER

Description:

A slender twining parasite. Stems threadlike, leafless, usually yellowish or orange but sometimes tinged with red. Leaves reduced to minute scales. Flowers white, yellow, or orange, tiny, occur in massed clusters; calyx 5-lobed, cupped; corolla 5-lobed, 1/8 inch across, cut halfway down; stamens 5; styles 2, extended. Fruit a capsule, nearly spherical, 1/8 inch in diameter, indehiscent, 2-celled. Seeds 4, each 1/12 inch in diameter, brownish in color (20).

Propagation:

By seed and creeping stems.

Habitat:

Found in arid and moist regions at lower to middle elevations.

History:

Endemic to Hawaii.

Notes:

Declared noxious in Regulation 2. It attaches itself to other plants by suckers.

Comments and faves

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Web resources for weed control.

Weeds of Hawaii Pastures

URL: <http://www.ctahr.hawaii.edu/invweed/weedsHi.html>



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Info for Conservation

Info for Farmers

Info for Ranchers

Weeds of Hawaii

Videos

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Contact CTAHR Scientists

Dr. James Leary

Dr. Joe DeFrank

Dr. Ted Radovich

Weeds of Hawaii

Weeds of Hawaii's Pastures and Natural Areas; An Identification and Management Guide by P. Motooka, L. Castro, D. Nelson, G. Nagai, and L. Ching. ©2003, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa.



Available for sale from CTAHR, this book includes a quick visual key to help quickly identify weedy trees, shrubs, vines, herbs and grasses found in Hawaii. Individual fact sheets from the publication are available below (.pdf).

- *Abrus precatorius*, Precatory bean, black-eyed susan, bead vine, rosary pea
- *Acacia confusa*, Formosa koa, small Philippine acacia, yanangi (Belau)
- *Acacia farnesiana*, Klu, huisache
- *Acacia mearnsii*, Black wattle
- *Ageratina adenophora*, Maui pamakani
- *Ageratum conyzoides*, Tropic ageratu
- *Amaranthus spinosus*, Spiny amaranth, pigweed
- *Andropogon virginicus*, Broomsedge
- *Ardisia elliptica*, Shoebutton ardisia
- *Arthrostemum ciliatum*, Arthrostemum
- *Asclepias physocarpa*, Balloon plant
- *Asystasia gangetica*, Chinese violet, coromandel
- *Axonopus fissifolius*, Narrowleaved carpetgrass
- *Bambusa vulgaris*, Feathery bamboo, common bamboo
- *Batis maritima*, Pickle weed, akulikulikai
- *Bidens pilosa*, Hairy beggartick, Spanish needle
- *Blechnum occidentale*, Blechnum fern
- *Bocconia frutescens*, Bocconia, plume poppy, tree poppy
- *Boerhavia coccinea*, Red spiderling
- *Brachiaria mutica*, Paragrass, californiagrass, panicumgrass, buffalograss
- *Buddleia asiatica*, Dog tail, huelo ilio
- *Buddleia madagascariensis*, Smoke bush
- *Caesalpinia decapetala*, Catsdaw, popoki, wait-a-bit, Mysore thorn, puakelekimo
- *Casuarina equisetifolia*, Ironwood, Australian pine, horsetail casuarina, coast she-oak, whistling pine, horsetail beefwood, Australian oak, swamp oak, toa (Samoa)
- *Cenchrus ciliaris*, Buffelgrass
- *Cenchrus echinatus*, Common sandbur

Buddleia asiatica

Dog tail, huelo 'ilio

Buddleia asiatica Lour.

Family: Buddleiaceae

Description: Shrub to 20 ft tall. Young stems hairy. Leaves opposite, alternate higher on the stem, 2–12 inches long by 3 inches wide, margins finely serrate. Flowers small, white or lavender, or greenish, in drooping tail-like inflorescence. Fruits are dry capsules, 0.2 inches long. Seeds tiny, winged on both ends. Genus named in honor of Rev. Adam Buddle, 17th–18th century English vicar and botanist⁽⁷⁰⁾; *asiatica*, of Asia⁽⁶⁹⁾.

Distribution: Native to south Asia, Taiwan, and Malaysia. Very common in mesic to wet pastures, forests, roadsides, and waste areas of O'ahu, Moloka'i, Maui, and Hawai'i up to 4000 ft elevation. Collected on O'ahu in 1908⁽⁷⁰⁾.

Environmental impact: Invades disturbed areas of forests.




Management: Sensitive to glyphosate and hormone-type herbicides. Very sensitive to triclopyr ester applied to basal bark (10% product in oil) and triclopyr amine in foliar application at 2% product in water.



Web resources for weed control.

Plants of Hawaii – by Forest & Kim Starr

URL: <http://www.hear.org/starr/images/?o=plants>

Plants of Hawaii 

Family Index : Species Index

Images of plants found in Hawaii, by [Forest & Kim Starr](#) (Image use policy). Need a plant identified? Try [Hawaii Plant ID](#).

Scientific Name	Common Name	Family
Abelia x grandiflora	Glossy abelia	Caprifoliaceae
Abelmoschus esculentus	Okra, gumbo, lady's finger	Malvaceae
Abrus precatorius	Black-eyed Susan, rosary pea	Fabaceae
Abutilon eremipetalum *	Hidden petal abutilon	Malvaceae
Abutilon grandifolium	Hairy abutilon	Malvaceae
Abutilon incanum	Hoary abutilon	Malvaceae
Abutilon menziesii *	Kooloaula	Malvaceae
Abutilon pictum	Lantern ilima, royal ilima	Malvaceae
Abutilon x hybridum	Hybrid abutilon	Malvaceae
Abutilon x milleri	Trailing abutilon	Malvaceae
Acacia aneura	Mulga acacia	Fabaceae
Acacia aulacocarpa	Hickory wattle, brown salv	
Acacia auriculiformis	Earpod wattle	
Acacia confusa	Formosa koa	
Acacia farnesiana	Klu	
Acacia koa *	Koa	
Acacia koaia *	Koaia, dwarf koa	
Acacia mangium	Mangium wattle	
Acacia mearnsii	Black wattle	
Acacia melanoxylon	Australian blackwood	
Acacia podalyriifolia	Queensland silver wattle	
Acacia retinodes	Water wattle	
Acacia sp.	Unknown acacia	
Acalypha hispida	Chenille plant, red hot cat	
Acalypha reptans	Cat tail	
Acalypha wilkesiana	Copper leaf, beefsteak	
Acanthospermum australe	Spiny-bur, Paraguay bur,	
Acca sellowiana	Pineapple guava	

Home > Malvaceae > [Abutilon incanum](#) (hoary abutilon)



Abutilon incanum (hoary abutilon)
Seed capsules at Lahaina Pali Trail, Maui. December 09, 2002.

Abutilon incanum
Hoary abutilon

Seed capsules
Lahaina Pali Trail, Maui
December 09, 2002

























Image# 021209-0006

Plants of Hawaii

Home > Malvaceae > [Abutilon incanum](#) (hoary abutilon)

Native : Indigenous?

Sort by: View

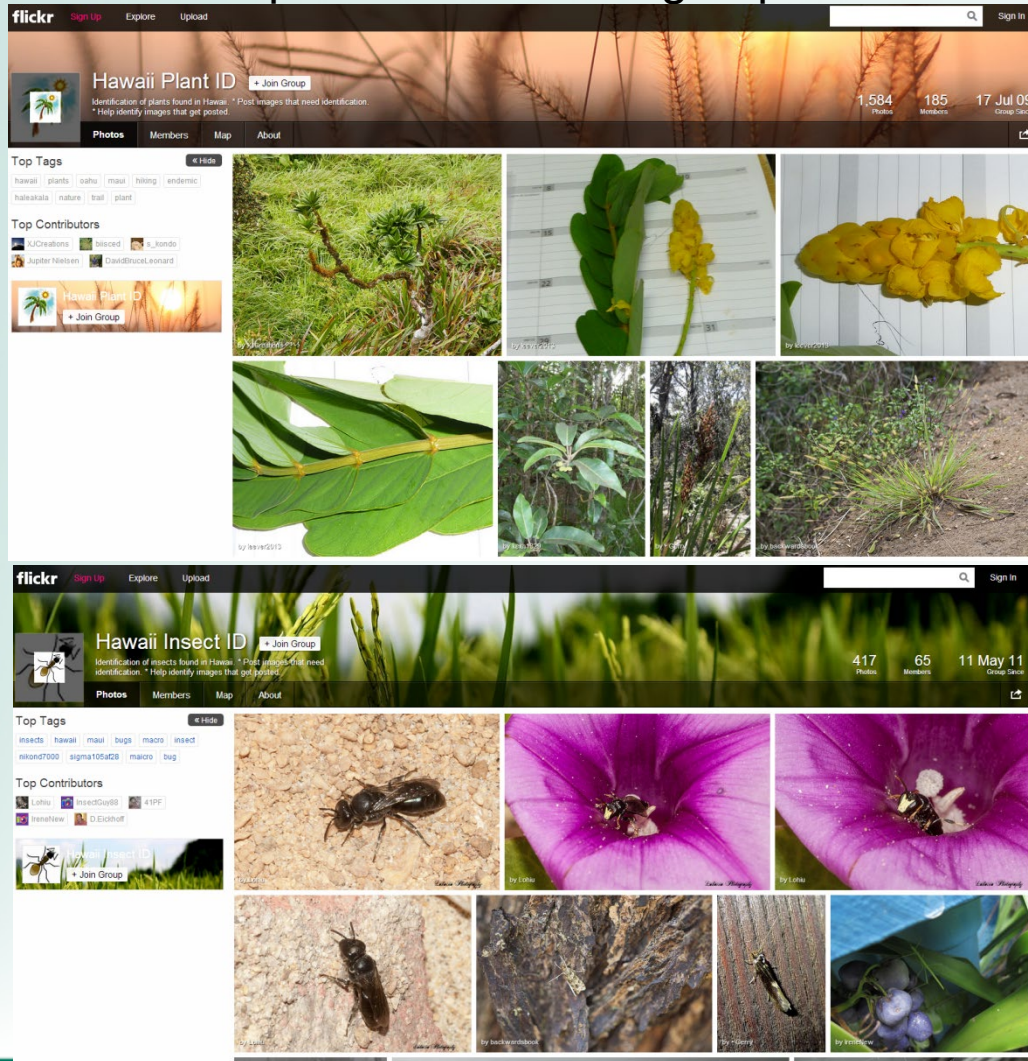
 <i>Abutilon incanum</i> (Hoary abutilon) Habitat with Kim and Forest Puu Pehe, Lanai April 06, 2006 060406-7290	 <i>Abutilon incanum</i> (Hoary abutilon) Camp Honokaaia, Kahoolawe July 31, 2003 030731-0133	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat and view Puu pehe with Kim and Forest Puu Pehe Cove, Lanai April 05, 2007 070405-6861	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat and view Puu pehe Puu Pehe Cove, Lanai April 05, 2007 070405-6859	 <i>Abutilon incanum</i> (Hoary abutilon) Flower Keelakahi, Kahoolawe October 14, 2004 041014-0030	 <i>Abutilon incanum</i> (Hoary abutilon) Helicopter LZ Honokaaia, Kahoolawe March 30, 2004 040330-0103	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat Luu Kaaialalo, Kahoolawe February 17, 2004 040217-0048	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat too harsh Moku Nalo, Lanai April 06, 2006 060406-7125
 <i>Abutilon incanum</i> (Hoary abutilon) Flower Lahaina Pali Trail, Maui December 09, 2002 021209-0045	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat and helicopter Honokaaia, Kahoolawe February 07, 2008 080207-2342	 <i>Abutilon incanum</i> (Hoary abutilon) Seed capsules Lahaina Pali Trail, Maui December 09, 2002 021209-0008	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat view nearby rocks Puu Pehe, Lanai April 06, 2006 060406-7318	 <i>Abutilon incanum</i> (Hoary abutilon) Flower Lahaina Pali Trail, Maui December 09, 2002 021209-0046	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat Honokaaia, Kahoolawe May 25, 2005 050525-1879	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat and view Puu pehe Kii, Lanai April 06, 2006 060406-9251	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat Lahaina Pali Trail, Maui December 09, 2002 021209-0009
 <i>Abutilon incanum</i> (Hoary abutilon) Seed capsules Lahaina Pali Trail, Maui	 <i>Abutilon incanum</i> (Hoary abutilon) Voucher 060406-08 Kii, Lanai	 <i>Abutilon incanum</i> (Hoary abutilon)	 <i>Abutilon incanum</i> (Hoary abutilon) Seed capsule and flower bud Lahaina Pali Trail, Maui	 <i>Abutilon incanum</i> (Hoary abutilon)	 <i>Abutilon incanum</i> (Hoary abutilon)	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat view heiau and Forest Hulopoe, Lanai	 <i>Abutilon incanum</i> (Hoary abutilon) Habitat view Puu Pehe South coast, Lanai

Web resources for weed control.

Hawaii Plant & Insect ID, join and submit photos, explore gallery

Plant ID = <http://www.flickr.com/groups/hawaiiplantid/>

Insect ID = <http://www.flickr.com/groups/hawaii-insect-id/>



Free to join
and submit
images for
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Web resources for landscape weed control.

2020 North Carolina Ag. Chemical Manual:

<https://content.ces.ncsu.edu/north-carolina-agricultural-chemicals-manual>

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2020 North Carolina Agricultural Chemicals Manual

Introduction [↗](#)

The *North Carolina Agricultural Chemicals Manual* provides extension specialists and agents, researchers, and professionals in the agriculture industry with information on the selection, application, and safe and proper use of agricultural chemicals. The manual is revised annually offering a wealth of up-to-date and reliable information covering pesticides, fertilizers, application equipment, specimen identification, growth regulators, and the control of insects, diseases, weeds, and animals.

This edition was prepared by the College of Agriculture and Life Sciences at North Carolina State University and by an editorial committee consisting of Katie Jennings, Horticultural Science, Chair; Fred Yelverton, Crop and Soil Sciences; Matthew Vann, Crop and Soil Sciences; Barbara Shew, Entomology and Plant Pathology; Hannah J. Burrack, Entomology and Plant Pathology; Charlie Cahoon, Crop and Soil Sciences; Christopher S. DePerno, Forestry and Environmental Resources; Thomas A. Melton, Administrative Advisor; and James W. Burnette Jr., Structural Pest Control & Pesticide Division, North Carolina Department of Agriculture & Consumer Services.

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ABBREVIATIONS

VII. CHEMICAL WEED CONTROL

Chemical Weed Control in Field Corn; Cotton; Peanuts; Sorghum; Soybeans; Sunflowers; Tobacco; and Wheat, Barley, Oats, Rye, and Triticale
Glyphosate Formulations; Herbicide Resistance Management; Herbicide Modes of Action for Hay Crops, Pastures, Lawns and Turf
Chemical Weed Control in Clary Sage; Small Fruit Crops; Tree Fruit Crops; Hay Crops and Pastures; Lawns and Turf; Ornamentals; Vegetable Crops; and Forest Stands
Forest Site Preparation, Stand Conversion, Timber Stand Improvement; Aquatic Weed Control; Chemical Control of Specific Weeds; and Woody Plants
Total Vegetation Control on Noncropland



Web resources for landscape weed control.

2020 North Carolina Ag. Chemical Manual

<https://content.ces.ncsu.edu/north-carolina-agricultural-chemicals-manual>

Chapter VII—2020 N.C. Agricultural Chemicals Manual

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Web resources for landscape weed control.

2020 North Carolina Ag. Chemical Manual

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Table 7-14. Chemical Weed Control in Lawns and Turf

Herbicide and Formulation	Amount of Formulation Per 1,000 sq ft	Amount of Formulation per Acre	Pounds Active Ingredient per Acre	Precautions and Remarks
Postemergence Control, Purple and Yellow Nutsedge, Kyllinga Species				
flazasulfuron, MOA 2 (25 DG)	0.034 to 0.069 oz	1.5 to 3 oz	0.023 to 0.0469	For use on well-established bermudagrass, zoysiagrass, centipedegrass and seashore paspalum grown on nonresidential turf including golf course fairways, roughs and tees, and industrial parks, tank-sod- and seed farms, cemeteries, athletic field and commercial lawns. Apply a maximum of 1.5 ounces per acre on fully green centipedegrass and seashore paspalum. 3 ounces per acre needed for perennial nutsedge and some annual sedge species control. Repeat applications in 2 to 6 weeks when nutsedge or sedge growth is evident. 1.5 to 2.25 ounces per acre will control kyllinga species. Maintain a 25 feet nontreated border beside susceptible turf species. Can overseed in 2 weeks if applied up to 1.5 ounces per acre. Wait 4 weeks if applied more than 1.5 ounces per acre. Include a nonionic surfactant at 0.25% by volume.
imazaquin, MOA 2 (70 DG)	0.128 to 0.256 oz	0.357 to 0.714 lb	0.25 to 0.5	Use on bermudagrass, centipedegrass, St. Augustinegrass, and zoysiagrass. Do not apply during spring greenup. Temporary yellowing may occur. Add a nonionic surfactant at 2 pt per 100 gal of spray solution. Addition of MSMA at 1.5 lb active per acre will improve sedge control in MSMA tolerant turfgrasses.
imazosulfuron, MOA 2 (75 WG)	0.184 to 0.322 oz	8 to 14 oz	0.38 to 0.66	May be applied to established (two mowings) residential and commercial bermudagrass, zoysiagrass, centipedegrass, St. Augustinegrass, creeping bentgrass, Kentucky bluegrass, perennial ryegrass, tall fescue, and fine fescue. Do not apply to putting greens. Reapply 3 weeks after initial application when using the 8 ounces per acre rate. Reapply as needed 3 weeks after initial application when using rates above 8 ounces per acre. Wait 4 weeks to seed or sod after application. Use an 80% active nonionic surfactant at 0.25% by volume. For spot treatment, add 0.25 to 0.33 oz in 1 to 2 gallons of water per 1000 square feet. Add 2 teaspoons nonionic surfactant per gallon.
halosulfuron, MOA 2 (75 WDG)	0.9 g	0.67 to 1.33 oz	0.031 to 0.062	May be applied to established residential and commercial bermudagrass, bahiagrass, zoysiagrass, centipedegrass, St. Augustinegrass, creeping bentgrass, Kentucky bluegrass, perennial ryegrass, tall fescue, and fine fescue. Apply broadcast when sedges have reached the 3- to 8-leaf stage. Use lower rate for light infestations and higher rate for heavy infestations. A second treatment will usually be required 6 to 10 weeks after the initial treatment. Use an 80% active nonionic surfactant at 2 quarts per 100 gallons of spray solution (0.5% by volume). Do not exceed 1 to 2 pints of surfactant per acre. Do not apply to putting greens. Halosulfuron only suppresses green kyllinga.
MSMA, MOA 17 (6 SL, 6.6 SL)		several concentrations	2 to 3	See remarks for MSMA above. Will require at least 2 applications 7 to 10 days apart.



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Product Type

Herbicide - Weeds ▼

Crop

turf

Pest 1

nut sedge

Pest 2

Pest 2

Manufacturer

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State

Hawaii ▼

Organic Products Only

Clear All

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SEARCH

Crops

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Select All

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Turfgrass

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Next



Results For: Product Type: Herbicide - Weeds | Crop: turf | Pest 1: nut sedge | State: Hawaii

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Search results: 52 product(s) found

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62719-556

Basagran® T&O herbicide
BASF Professional and Specialty Solutions
7969-326

Broadloom® Herbicide
UPL NA Inc.
70506-306

Celero® Herbicide
Valent U.S.A. LLC Professional Products
59639-155

Certainty® Turf Herbicide
Valent U.S.A. LLC Agricultural Products
59639-226

Cornerstone® 5 Plus
WinField United
1381-241

Dismiss® Turf Herbicide
FMC Professional Solutions
279-3295

Duramax® Herbicide
Corteva Agriscience United States
62719-556

Durango® DMA® Herbicide
Corteva Agriscience United States
62719-556

Four Power Plus®
Loveland Products, Inc.
34704-890

FreeHand® 1.75G herbicide
BASF Professional and Specialty Solutions
7969-273

Gly Star® Original
Albaugh, LLC/Agri Star
42750-60

Gly Star® Plus
Albaugh, LLC/Agri Star
42750-61

Gly Star® Pro Grass and Weed Killer
Albaugh, LLC/Agri Star
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SEARCH / PRODUCT LIST

Results For: Product Type: Herbicide - V

Filter(s): Brand Name...

Product List

Accord® XRT Herbicide Corteva Agriscience United States 62719-517	Basagran® T&O herbicide Professional and Specialty Solutions 7969-326
Broadloom® Herbicide UPL NA Inc. 70506-306	Certainty® Turf Herbicide Valent U.S.A. LLC Agricultural Products 59639-226
Compass® E-Plus	Dialin® Turf Herbicide
Dialin® Turf Herbicide	Duspro® Herbicide

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Herbicides for turf in HI 02/23/2020 (2/23/2020) ▷ Inbox ×



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Search Parameters:

Product Type: Herbicide - Weeds

Crop: Turfgrass

Pest1: nut sedge

State: Hawaii

Product	EPA	Manufacturer	AI
Accord® XRT Herbicide	62719-517	Corteva Agriscience United States	Glyphosate, isopropylamine salt
Accord® XRT II Herbicide	62719-556	Corteva Agriscience United States	Glyphosate, dimethylamine salt
Basagran® T&O herbicide	7969-326	BASF Professional and Specialty Solutions	Bentazon
Broadloom® Herbicide	70506-306	UPL NA Inc.	Bentazon
Celero® Herbicide	59639-155	Valent U.S.A. LLC Professional Products	Imazosulfuron
Certainty® Turf Herbicide	59639-226	Valent U.S.A. LLC Agricultural Products	Sulfosulfuron
Cornerstone® 5 Plus	1381-241	WinField United	Glyphosate, isopropylamine salt
Dismiss® Turf Herbicide	279-3295	FMC Professional Solutions	Sulfentrazone
...	...	Corteva Agriscience United States	...



Web resources for landscape weed control.

Bayer Advanced – products for homeowners
(<http://www.bayeradvanced.com/find-a-product/lawn-care>)



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- Disease Control
- Grubs
- Insects & Pests
- Weeds



2-In-1 Moss & Algae
Killer



3-In-1 Weed & Feed
For Southern Lawns



All-In-One Lawn
Weed & Crabgrass
Killer



Bermudagrass
Control For Lawns



Crabgrass Killer for
Lawns



NATRIA® Lawn Weed
Control



Season Long Weed
Control For Lawns



Southern Weed Killer
For Lawns



Weed Killer For
Lawns



Tropical Plant & Soil Sciences Department
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Web resources for landscape weed control.

Bioadvanced – products for homeowners <https://www.bioadvanced.com/>)



Kills weeds in Southern lawns, without harming the grass*

- Kills 200+ broadleaf weeds in St. Augustinegrass, Centipedegrass and other Southern lawns
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- Rainproof in one hour
- 32 oz. Ready-To-Spray treats up to 16,000 sq. ft.
- 40 oz. Concentrate treats up to 20,000 sq. ft.
- Actives: 7.59% 2,4-D dimethylamine salt; 1.83% Mecoprop-p dimethylamine salt; 0.84% Dicamba, dimethylamine salt

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Lawn Care

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HOW MUCH TO APPLY

Northern Lawns:

Fescue, Kentucky Bluegrass, and Perennial Rye - 2 fl. oz. (4 Tbs.) per gallon of water

Hardy Southern Lawns:

Bermuda, Buffalo and Zoysia grasses - 2 fl. oz. (4 Tbs.) per gallon of water

Southern Lawns:

Bahia, Centipede, and St. Augustinegrass - 1 fl. oz. (2 Tbs.) per gallon of water

For lawns with mixed grass types, use the lowest rate.

Each gallon of solution treats 500 sq. ft.

TIP: Measure length and width of area to be treated in feet. Multiply these 2 numbers together. This is the area to be treated in square feet (sq. ft.)

Application Restrictions:

- Limited to 2 applications per year with a 30 day interval between applications
- Maximum single application rate of 8.0 fl. oz./1,000 sq. ft. (1.47 lbs 2,4-D ae, 0.35 lb MCPP-p ae and 0.16 lb dicamba ae per acre per application)
- Maximum seasonal rate of 16.0 fl. oz./1,000 sq. ft. (2.94 lbs 2,4-D ae, 0.71 lb MCPP-p ae and 0.33 lb dicamba ae per acre per application)



Factors for a healthy lawn

<https://www.ctahr.hawaii.edu/oc/freepubs/pdf/TM-4.pdf>

Cooperative Extension Service
CTAHR
College of Tropical Agriculture & Human Resources
University of Hawaii at Manoa

Turf Management
Oct. 1998
TM-4

Adaptation of Turfgrasses in Hawaii

- Turf grass weed control **depends** on a uniform growth environment.
- Weeds are a sign of growth conditions that do not favor the turf species.
- Growth condition affecting turf:
 1. **Soil moisture levels**
 2. **Light exposure**
 3. **Nutrients**
 4. **Compaction**
 5. **Mowing height**



Factors for a healthy lawn

A healthy lawn is the best form of weed control

Automated
irrigation essential
to a healthy lawn



Factors for a healthy lawn

Proper growth:

- **Water - automated, amount, coverage**
- **Light - full sun vs shade**
- **Water quality - salty or fresh**



Factors for a healthy lawn



Spot irrigation with drip to prevent summer thinning due to water stress

Factors for a healthy lawn



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Too wet

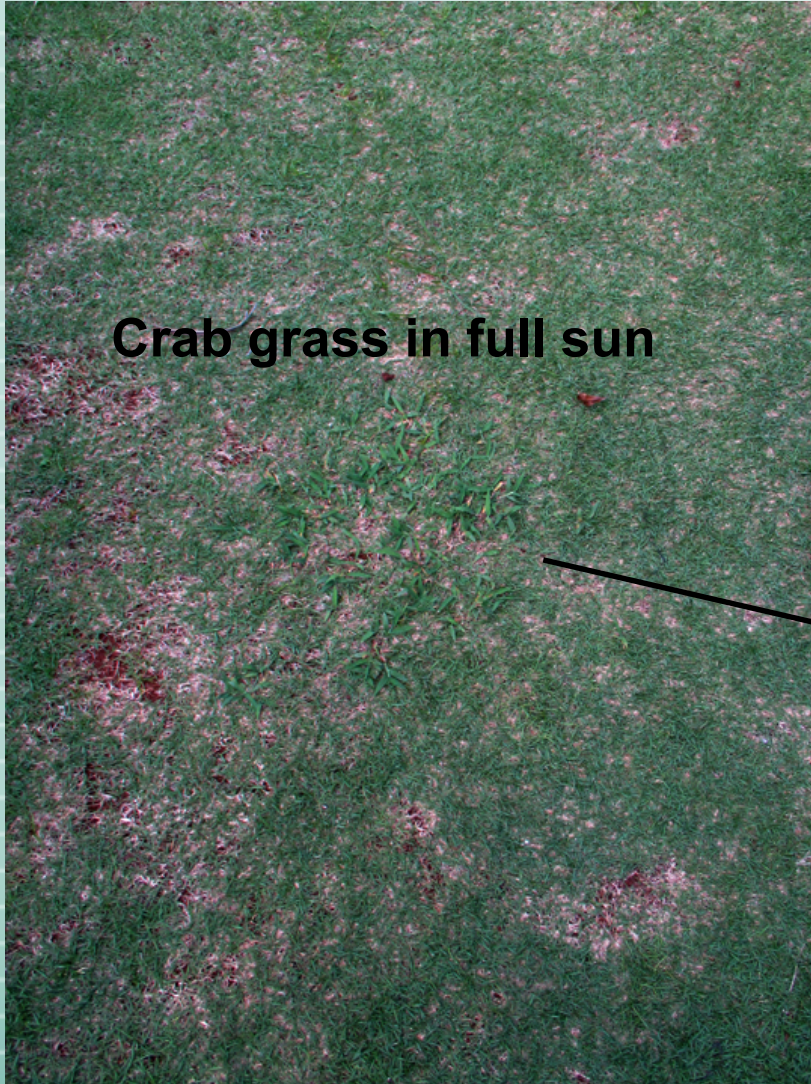
Heavy
shade

Full sun



Factors for a healthy lawn

Crab grass in full sun



Factors for a healthy lawn



Factors for a healthy lawn



McCoy grass shade tolerant sedge

Factors for a healthy lawn



Gr. Kyllinga wet soil & full sun

Factors for a healthy lawn

Proper growth:

- **Water - automated, amount, coverage**
- **Light - full sun vs shade**
- **Water quality - salty or fresh**



Factors for a healthy lawn

LIGHT - FULL SUN VS SHADE

Tolerance to shade

HIGHEST



LOWEST

St. Augustinegrass

zoysiagrasses

carpetgrass

centipedegrass

seashore paspalum

bermudagrasses

buffalograss



Factors for a healthy lawn

WATER QUALITY - SALTY OR FRESH

Tolerance to salt

HIGHEST



LOWEST

seashore paspalum

St. Augustinegrass

Zoysia japonica

bermudagrasses

buffalograss

carpetgrass

Zoysia matrella

centipedegrass



Factors for a healthy lawn

Proper mowing for optimum turf health



Factors for a healthy lawn

Proper mowing for optimum turf health



PROBLEM BROADLEAF WEEDS

Legumes :creeping indigo, desmodiums, clovers

Spurges: prostrate, garden and graceful

Misc brd lf.: Amaranths, ground ivy, oxalis



A photograph of a creeping indigo plant (Indigofera spicata) growing on dark, reddish-brown soil. The plant has several green, bipinnate leaves with small, rounded leaflets. A central stem features a dense, upright spike of small, pinkish flowers. The plant is prostrate, with its stems spreading across the ground. In the bottom right corner, there are some dried, brownish plant parts.

Creeping indigo
Indigofera spicata

Desmodium triflorum – beggar weed



Button weed *Spermacoce assurgens*





Khaki weed
Alternanthera pungens

A close-up photograph of a ground ivy plant (Glechoma hederacea) growing in dark brown soil. The plant features numerous small, bright green, rounded leaves with a scalloped or lobed margin. The stems are thin and reddish-brown, spreading across the ground. In the upper right corner, there are larger, broader green leaves of another plant, possibly a weed, with some signs of insect damage. The overall scene is a natural, outdoor setting.

Ground ivy

Glechoma hederacea

Graceful spurge *Euphorbia hypericifolia*

**Garden spurge
*Euphorbia hirta***

Prostrate spurge *Euphorbia prostrata*





Sprawling Horse Weed
Calyptocarpus vialis



Sedge Weeds in Hawaiian Landscapes

Purple nutsedge
Yellow nutsedge
Green Kyllinga
White Kyllinga





Purple Nutsedge

Cyperus rotundus

- Brown narrow spikes in flower head
- Tubers in chains
- Seed not viable
- Spreads by vegetative parts = tubers





PURPLE NUTSEGE

Yellow Nutsedge - *Cyperus esculentus*

- Yellowish-Brown or straw colored flower head
- Round tubers at the end of rhizomes, sweet
- Does not form chains, seed not viable
- Spreads by vegetative parts= tubers

Yellow Nutsedge - *Cyperus esculentus*



A refreshing beverage is made by mixing the ground tubers with water, cinnamon, sugar, vanilla and ice. The ground up tuber can also be made into a plant milk with water, wheat and sugar. An edible oil is obtained from the tuber. It is considered to be a superior oil that compares favorably with olive oil. [Facciola. S. *Cornucopia - A Source Book of Edible Plants.*]





White Kyllinga

- **White single round flower heads**
- **No tubers**
- **spreads by seed and underground stems**





White kyllinga
Kyllinga nemoralis



Green Kyllinga

- **Green single round/oval flower heads**
- **No tubers**
- **Spreads by seed and underground stems**



Green kyllinga – *Kyllinga brevifolia*





W&R

VAN WATERS & ROGERS

W&R

INCHES

CENTIMETERS



Eleocharis spp.



Forest and Kim Starr



Grassy Weeds in Hawaiian Turf

Australian Carpet Grass

Hilo Grass

Goose grass

Dallisgrass

Love grass

Henry's and India CG

Star Grass

Smut grass

Pitted Beardgrass

Torpedo grass

Tropical Signal grass





Australian carpet grass

Axonopus compressus



Forest Starr & Kim Starr





Hilo grass

Paspalum conjugatum



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Similar looking weedy grasses



Hilo grass

A. Carpet grass

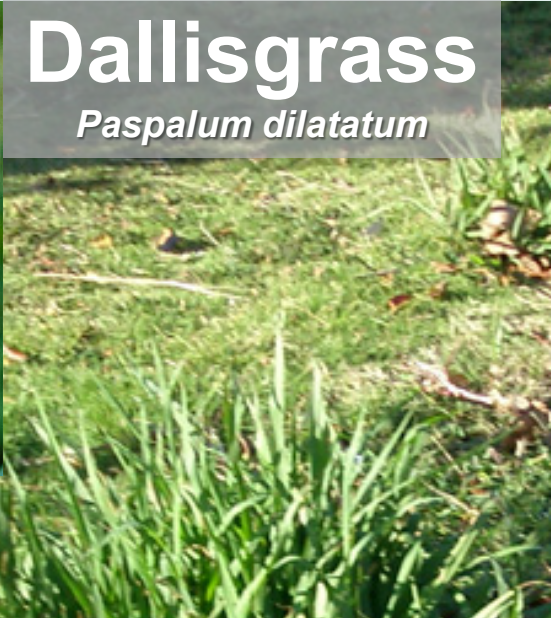
Goose grass

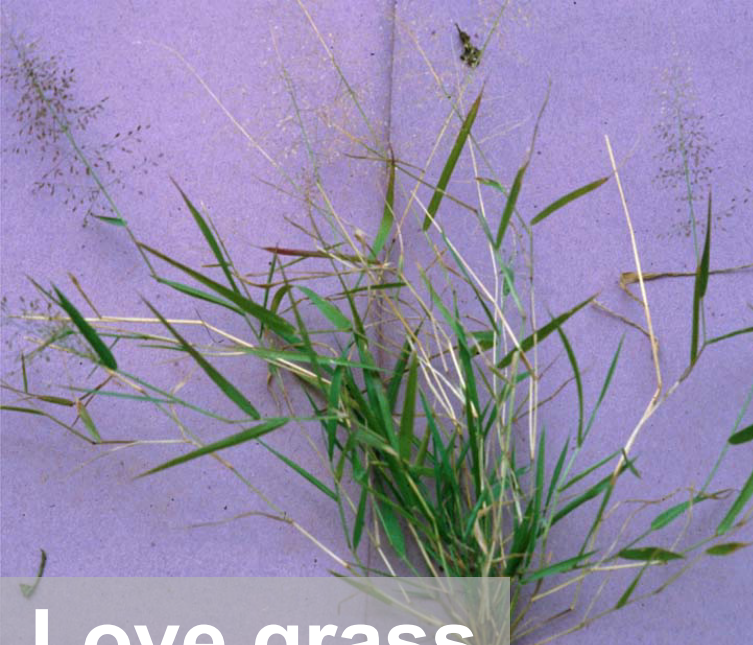
Eleusine indica



Dallisgrass

Paspalum dilatatum





Love grass

Eragrostis amabilis
Eragrostis tenella



Carolina Love grass

Eragrostis pectinacea



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Henry's Crabgrass

Digitaria ciliaris



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University of Hawaii at Manoa

Torpedo Grass

Panicum repens



West Loch Paspalum

Paspalum spp.



Torpedo Grass
Panicum repens

West Loch Paspalum
Paspalum spp.

Seashore p
Paspalum v



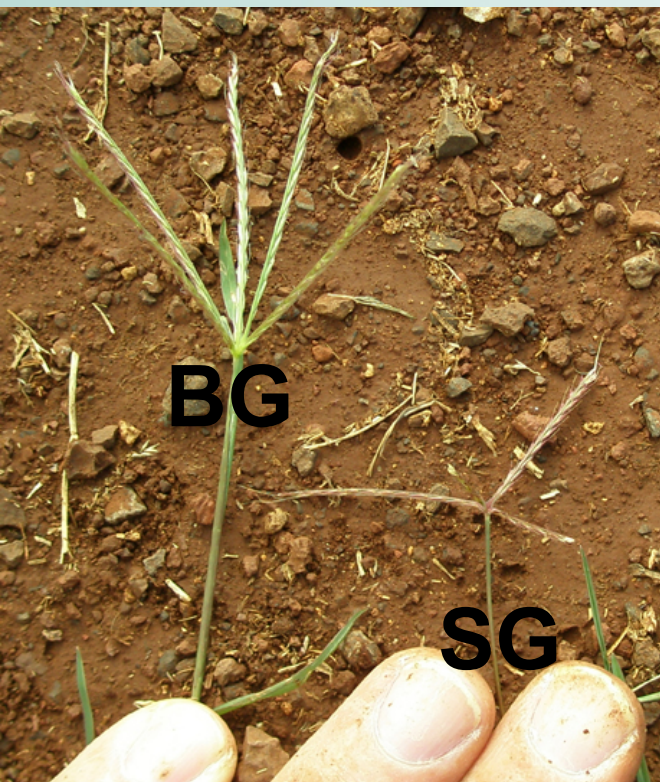
Tropical Signal Grass

Urochloa distachya/ *Brachiaria subquadrifera*



Star Grass

Chloris divaricata



Star Grass



Smutgrass

Sporobolus indicus



Pitted beardgrass

Bothriochloa pertusa



Forest Starr & Kim Starr



Tropical Plant & Soil Sciences Department
University of Hawaii at Manoa

End – Weed ID & Web Resources Lecture



For more information

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HI Weed ID:

<http://www.ctahr.hawaii.edu/deFrankJ/index.htm>

