NATURAL RESOURCES CONSERVATION SERVICE

PACIFIC ISLANDS CONSERVATION PRACTICE JOBSHEET

HERBACEOUS WEED CONTROL (315)

Participant:	Joe Rancher			Date Prepared:	06/10/2009
Tract(s):	1234	TMK(s):	Xxxxxx	CIN(s):	5
Field(s):	1			Area Treated (acres):	5
Ecological Site(s):	F159BY500HI – Ohia-Koa/Hapu`u-Kanawao Forest			Avg. Rainfall (in):	80
Soil Map Units:	570, Puu Oo (HI801 SSA)				
Slope %:	20	Aspect:	South		
Planner Name:	Jane Conservationist	JAA Level :	III	Job Class:	II

SCOPE

This jobsheet provides guidance for the design and implementation of Herbaceous Weed Control.

Objectives of treatment:

Manage noxious herbaceous plants; improve forage quantity and quality.

Current plant community (list species and percentages):

Guineagrass, signalgrass (to be planted).

Target Species Information

Target Species (common or scientific name)	**Target Species** (common or scientific name)
Koster's curse (*Clidemia hirta*)	
Thimbleberry (*Rubus rosifolius*)	

*See attached information sheets from Motooka 2003 "Weeds of Hawaii's Pastures and Natural Areas" for recommended chemical(s) and application methods that are successful, if available. Also refer to information below for specifics.

Note the species density before treatment and the planned species density after treatment (or the *minimum required treatment level*).

- Be sure to specify using percent canopy cover, OR percent composition by weight, OR density (#/ac).

r Current Canopy Cover of Target Species (%):		Planned Canopy Cover of Target Species (%):	
r Current Composition by Weight (%):		Planned Composition by Weight (%):	
r Current Density of Target Species (#/ac):	250/acre	Planned Density of Target Species (#/ac):	5-10/acre

Degree of reduction, and time-frame to achieve the reduction, as agreed upon by NRCS and producer to meet objectives:

Reduce infestation by at least 95% within 4 months of practice implementation. Maintain the level of control for at least 5 years by continuing to manage the species' as described here.

SELECTED TREATMENT – (CHECK METHOD(S) PLANNED)

Note that Multiple Treatments and Multiple Applications may be needed for control.

r **Chemical Application** r **Mechanical Application**

r **Biological Application** using one or both:

- r *Grazing* (See specifications for 528 – Prescribed Grazing)
- r *Insect or other Vector* (e.g., from approved state release programs)

r **Prescribed Burning** (See specifications for 338 – Prescribed Burning)

r **Organic Application** (list treatment type): _____

POTENTIAL EFFECTS ON OTHER RESOURCES
Wildlife Considerations (T&E Species, State species of concern, seasonal habitat requirements, etc.): List measures to follow that protect wildlife species and/or habitat requirements during implementation of the practice:
No additional considerations are necessary to protect T&E species or their habitats.
Has the CPA-52 been completed, and mitigation concerns addressed? r YES r NO
Cultural Resource Concerns:
None.
Has the appropriate determination been made by the Cultural Resources Specialist or designee, before job begins? r YES r NO
Recreation Impacts and Aesthetic Changes:
N/A
Onsite and Offsite Impacts to Riparian Areas, Wetlands, Waterways, Coastal Zones:
N/A

CHEMICAL APPLICATION*

Attach pages from CTAHR's "Weeds of Hawai`i's Pastures and Natural Areas", or other applicable publication.
HTTP://WWW.CTAHR.HAWAII.EDU/INVWEED/WEEDSHI.HTML

r Aerial Application r Ground/Foliar Application

Chemicals to be used:	Triclopyr amine (koster's curse) and triclopyr ester (thimbleberry), based on species and CTAHR recommendations; see attached plant information pages.		
Recommended application rates:	Per CTAHR	Optimum dates of treatment:	August thru March
Stage of growth for treatment:	Vigorously leafing out or sprouting, PRIOR to seed-set	Carries used, if any:	Crop oil, per CTAHR
Special application techniques:	Per CTAHR recommendations		

r Attach the WIN-PST or other pesticide/soil interaction report at the end of this jobsheet.

r After treatment has been applied, attach a copy of the producer's completed Pesticide Recordkeeping Form to this jobsheet (*http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRD3342996*)

***PRODUCER IS TO ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. FOLLOW ALL LABEL DIRECTIONS AND HEED ALL PRECAUTIONS ON THE CONTAINER LABEL.**

MECHANICAL TREATMENT			
Kind of equipment:	N/A	Optimum dates of control:	
Specific techniques or procedures:			
Erosion protection needed post-treatment:			

Practice Standard 550–Range Planting, or 512-Forage & Biomass Planting will be applied post-treatment.

r Yes r No

BIOLOGICAL TREATMENT			
Kind of biological agent or grazing animal:	N/A		
Season/dates of treatment:		Duration of treatment:	
Planned degree of use on target species:			
Maximum degree of use on non-target species:			
Number of livestock planned (AU):			
Special techniques:			

ORGANIC TREATMENT			
Describe type of treatment:	N/A		
Season/dates of treatment:		Duration of treatment:	
Planned degree of use on target species:			
Maximum degree of use on non-target species:			
Special techniques:			

NEED FOR REPEAT, MULTIPLE APPLICATION TREATMENTS

r Yes, the species treated are highly likely to re-sprout or vigorously reseed, and multiple applications will be needed. Multiple applications may need to be done in the same year, and/or in different years.

r No, the species treated should respond after one treatment.

ADDITIONAL SPECIFICATION SHEETS NEEDED TO APPLY THIS PRACTICE (CHECK APPLICABLE)

r Prescribed Grazing (528)
r Forage and Biomass Planting (512)
r Upland Wildlife Habitat Management (645)
r Restoration and Management of Rare and Declining Habitats
r Other, specify: _____

r Range Planting (550)
r Wetland Wildlife Habitat Management (644)
r Forest Stand Improvement (666)

SPECIAL PROVISIONS

☐ NONE r SEE ATTACHED SHEET

MANAGEMENT AFTER TREATMENT

☐ Deferment Period: All treated acres grazed by livestock after herbaceous weed control is implemented must be deferred from livestock grazing for the entire growing season(s) of the year in which treatment occurred. This is intended to optimize response of desired forage species. Consult with your NRCS representative for an on-site determination if re-entry of livestock is desired sooner.

☐ Prescribed Grazing: A prescribed grazing plan must be applied to the treated acres for the life of the practice (at least 5 years) after the period of deferment is completed.

Additional Management Recommendations and Notes:
None.

OPERATIONS AND MAINTENANCE

- When applied on grazed lands, a prescribed grazing plan **will be implemented** following treatment to encourage improvement of the desired grasses and forbs in the community.
- Herbaceous weed control practices shall be applied using approved materials and procedures. Operations will comply with all local, state, and federal laws.
- Some re-growth, re-sprouting, or regeneration of target species should be expected. Spot treatment of individual plants will be applied as needed to meet objectives.
- Abnormal conditions following treatment such as drought, low vigor of desirable grasses, or invasion of undesirable plants may require extension of the grazing deferment period.

Client's Acknowledgement (To be completed after practice I&E and design have been approved)

By signing below, I acknowledge that I:

- have reviewed this Jobsheet and have an understanding of its contents and requirements;
- will make no changes to this Jobsheet, without prior concurrence of NRCS;
- will install, operate, and maintain this practice in accordance with this Jobsheet; and
- will obtain all necessary permits and/or rights, comply with all ordinances and laws, and notify all utilities pertaining to the installation, operation, and maintenance of the practice.

Signature	Date

NATURAL RESOURCES CONSERVATION SERVICE

PACIFIC ISLANDS PRACTICE CERTIFICATION SHEET

HERBACEOUS WEED CONTROL (315)

AREA OF TREATMENT (acres) 5 DATE OF FIELD VISIT FOR CERTIFICATION: 07/05/2010 PHOTOS ATTACHED r

APPLIED TREATMENT (CHECK METHODS)

r **CHEMICAL APPLICATION*** r Applied as designed, or:

r Aerial Application r Ground/Foliar Application

Chemicals applied:	Triclopyr amine and ester	Application rates:	Amine: 1-2% in H_2O; Ester: 1 lb/acre in crop oil.
Carriers used, if any:	Crop oil	Dates of treatment:	09-25-2009 thru 10-01-2009

r *Attach a copy of the producer's completed Pesticide Recordkeeping Form for certification.

r **MECHANICAL TREATMENT*** r Applied as designed, or:

Kind of equipment:		Dates of treatment:	

Specific techniques or procedures:

Erosion protection applied post-treatment:

**If Practice Standard 550–Range Planting, or 512-Forage & Biomass Planting will be applied post-treatment, the planting must be established before this practice is certified.*

r **PRESCRIBED BURNING*** r Applied as designed, or:

r *Attach Practice Standard 338–Prescribed Burning, Exhibit 2 – Plan and Application Worksheet.

r **BIOLOGICAL TREATMENT*** r Applied as designed, or:

Kind of biological agent or grazing animal:			
Number of biological agents, or livestock grazed (AU):			
Dates of treatment:		Duration of treatment:	
Degree of use obtained on target species (%):		Degree of use on non-target species (%):	

r *If applicable, attach a copy of the producer's completed grazing records for certification.

r **ORGANIC TREATMENT** r Applied as designed, or:

Describe type of treatment:	
Dates of treatment:	

TREATMENT EVALUATION

Objectives met: r Yes r No

r Wildlife habitat requirements were met, and cultural resources were protected (if applicable).

Resulting canopy cover, density, or production of target species: <4/acre of each species.

Desired herbaceous vegetation (forage, natives, etc) response, and additional notes:

Guineagrass and sprigged signalgrass responded well. Producer will need to continue applying the chemical treatments periodically to ensure long-term success.

CERTIFICATION:

I hereby certify that this practice has been installed in accordance with NRCS standards and specifications.

Jane Conservationist	*III*	*07/05/2010*
NRCS Conservationist	Job Approval Authority	**Date**

Clidemia hirta

Koster's curse

Clidemia hirta (L.) D. Don

Family: Melastomataceae

Description: Branched shrub to 9 ft tall, hairy. Leaves ovate, 6 inches long by 3 inches wide with 5–7 prominent veins with distinct lateral veins between giving a checked appearance, margins with fine hairs, somewhat scalloped or toothed. Flowers small, white, in clusters. Berries 0.3 inches long, black, fleshy, 4-celled. Seeds very small, many. Genus named after *Clidemia*, an ancient Greek botanist; *hirsute*, coarse hairs[5, 70].

Distribution: Of tropical American origin, now widely dispersed throughout the Old World tropics, including Australia. Weed in pastures and especially forests on Kauaʻi, Oʻahu, Molokaʻi, Maui, and Hawaiʻi[26, 70].

Environmental impact: Shade tolerant, dominates understory in humid and mesic forests.

Management: Birds spread the seeds. For biological control, HDOA, DOFAW, and the University of Hawaiʻi are monitoring the fungus *Colletotrichum gloesporioides*. HDOA and DOFAW are testing *Lius poseidon*, a beetle, and moths *Antiblemma acclinalis*, *Carposina bullata*, and *Mompha trithalama*. Triclopyr amine at 1–2% product in water in foliar application was effective at Kipahulu, Maui (Haleakala National Park). A 50% triclopyr amine application to cut stump was effective at 1 month in a trial at Haʻena, Kauaʻi (Limahuli Gardens). Thinline basal bark application of triclopyr ester was effective on plants 7–9 ft tall at Kipahulu Valley, Maui (Haleakala National Park). Triclopyr ester at 2 lb/acre effective, especially with 0.5% crop oil (Univ. Hawaiʻi). Drizzle applications of glypho-sate and of triclopyr were ineffective (Univ. Hawaiʻi), but Pat Thile, DOFAW, reported good results with drizzle applications of triclopyr in oil on recovering clidemia that had been previously cut back.

Rubus rosifolius

Thimbleberry

Rubus rosifolius Sm.

Family: Rosaceae

Description: Small prickly shrub, 6 ft tall. Leaves pinnately compound, 5–7 leaflets, each 3 inches long by 1.2 inches wide. Flowers 1–3, white. Fruit red, 1.4 inches long, separates from the base (perianth) when picked, leaving the fruit a hollow "thimble." Moist to wet pastures, forests, and waste lands. *Rosifolius*, leaves resembling that of the rose plant[5, 70].

Distribution: Native to Asia, widely distributed in the tropics. Occurs on all the main islands of Hawai'i except Ni'ihau and Kaho'olawe. Introduced to the island of Hawai'i in the 1880s from Jamaica[70].

Environmental impact: A nuisance in pastures and natural areas, where it displaces desirable plants and interferes with passage and use of the land.

Management: Sensitive to triclopyr ester in water and very sensitive to triclopyr ester in a crop oil carrier, each applied by the drizzle method at 1 lb/acre. HAVO staff reported control with foliar application of either glyphosate at 1% product or triclopyr ester at 1% product in water (Chris Zimmer, HAVO).

Pesticide Recordkeeping Form

Name and Certification Number	Application Date*	Brand or Product Name	EPA Registration Number	Size of Area Treated	Rate Per Unit**	Total Amount Applied	Location	Crop

Additional Notes:

* date should include month, day and year ** rate per unit is not required by the Federal Pesticide Recordkeeping Regulations