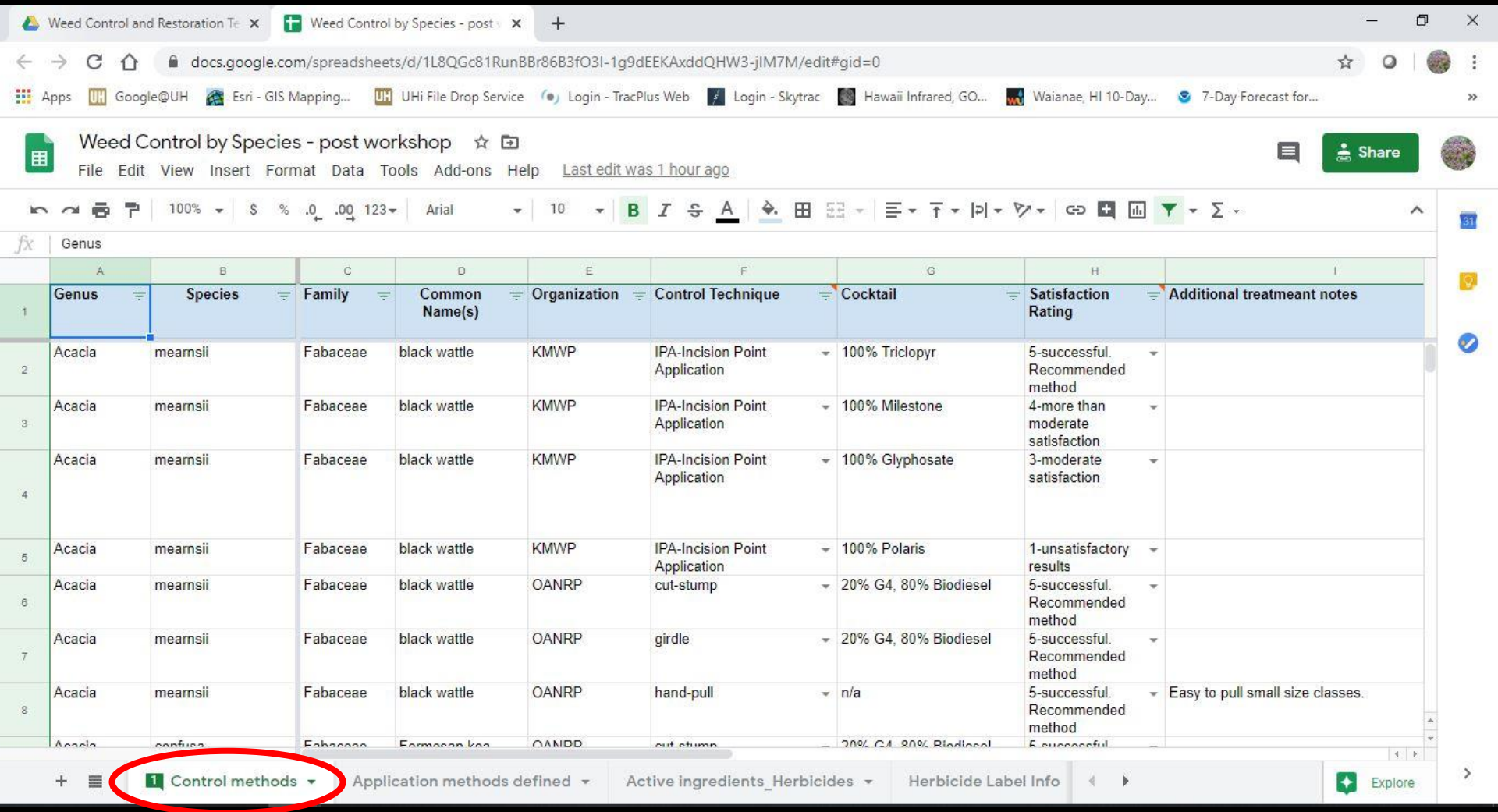
Weed Control by Species Spreadsheet

Control Methods



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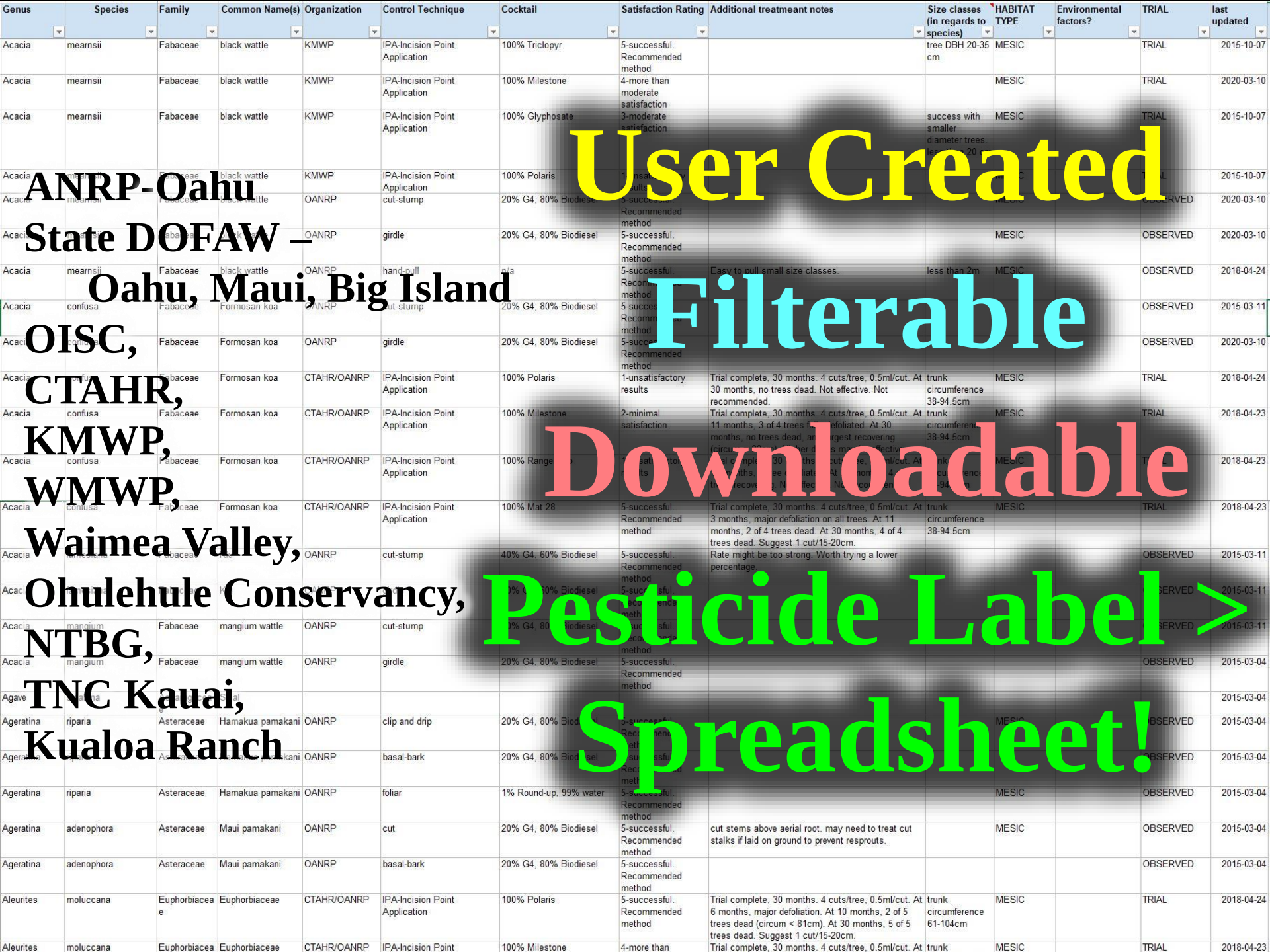
Genus

	A	B	C	D	E	F	G	H	I
1	Genus	Species	Family	Common Name(s)	Organization	Control Technique	Cocktail	Satisfaction Rating	Additional treatmeant notes
2	Acacia	mearnsii	Fabaceae	black wattle	KMWP	IPA-Incision Point Application	100% Triclopyr	5-successful. Recommended method	
3	Acacia	mearnsii	Fabaceae	black wattle	KMWP	IPA-Incision Point Application	100% Milestone	4-more than moderate satisfaction	
4	Acacia	mearnsii	Fabaceae	black wattle	KMWP	IPA-Incision Point Application	100% Glyphosate	3-moderate satisfaction	
5	Acacia	mearnsii	Fabaceae	black wattle	KMWP	IPA-Incision Point Application	100% Polaris	1-unsatisfactory results	
6	Acacia	mearnsii	Fabaceae	black wattle	OANRP	cut-stump	20% G4, 80% Biodiesel	5-successful. Recommended method	
7	Acacia	mearnsii	Fabaceae	black wattle	OANRP	girdle	20% G4, 80% Biodiesel	5-successful. Recommended method	
8	Acacia	mearnsii	Fabaceae	black wattle	OANRP	hand-pull	n/a	5-successful. Recommended method	Easy to pull small size classes.

Control methods | Application methods defined | Active ingredients_Herbicides | Herbicide Label Info | Explore



Genus	Species	Family	Common Name(s)	Organization	Control Technique	Cocktail	Satisfaction Rating	Additional treatmeant notes	Size classes (in regards to species)	HABITAT TYPE	Environmental factors?	TRIAL	last updated
Acacia	mearnsii	Fabaceae	black wattle	KMWP	IPA-Incision Point Application	100% Triclopyr	5-successful. Recommended method		tree DBH 20-35 cm	MESIC		TRIAL	2015-10-07
Acacia	mearnsii	Fabaceae	black wattle	KMWP	IPA-Incision Point Application	100% Milestone	4-more than moderate satisfaction			MESIC		TRIAL	2020-03-10
Acacia	mearnsii	Fabaceae	black wattle	KMWP	IPA-Incision Point Application	100% Glyphosate	3-moderate satisfaction		success with smaller diameter trees.	MESIC		TRIAL	2015-10-07
Acacia	mearnsii	Fabaceae	black wattle	KMWP	IPA-Incision Point Application	100% Polaris	1-unsatisfactory results						2015-10-07
Acacia	mearnsii	Fabaceae	black wattle	OANRP	cut-stump	20% G4, 80% Biodiesel	5-successful. Recommended method					OBSERVED	2020-03-10
Acacia	mearnsii	Fabaceae	black wattle	OANRP	girdle	20% G4, 80% Biodiesel	5-successful. Recommended method			MESIC		OBSERVED	2020-03-10
Acacia	mearnsii	Fabaceae	black wattle	OANRP	hand-pull	n/a	5-successful. Recommended method	Easy to pull small size classes.	less than 2m	MESIC		OBSERVED	2018-04-24
Acacia	confusa	Fabaceae	Formosan koa	OANRP	cut-stump	20% G4, 80% Biodiesel	5-successful. Recommended method					OBSERVED	2015-03-11
Acacia	confusa	Fabaceae	Formosan koa	OANRP	girdle	20% G4, 80% Biodiesel	5-successful. Recommended method					OBSERVED	2020-03-10
Acacia	confusa	Fabaceae	Formosan koa	CTAHR/OANRP	IPA-Incision Point Application	100% Polaris	1-unsatisfactory results	Trial complete, 30 months. 4 cuts/tree, 0.5ml/cut. At 30 months, no trees dead. Not effective. Not recommended.	trunk circumference 38-94.5cm	MESIC		TRIAL	2018-04-24
Acacia	confusa	Fabaceae	Formosan koa	CTAHR/OANRP	IPA-Incision Point Application	100% Milestone	2-minimal satisfaction	Trial complete, 30 months. 4 cuts/tree, 0.5ml/cut. At 11 months, 3 of 4 trees f defoliated. At 30 months, no trees dead, ar largest recovering (circu	trunk circumferen 38-94.5cm	MESIC		TRIAL	2018-04-23
Acacia	confusa	Fabaceae	Formosan koa	CTAHR/OANRP	IPA-Incision Point Application	100% Range				MESIC			2018-04-23
Acacia	confusa	Fabaceae	Formosan koa	CTAHR/OANRP	IPA-Incision Point Application	100% Mat 28	5-successful. Recommended method	Trial complete, 30 months. 4 cuts/tree, 0.5ml/cut. At 3 months, major defoliation on all trees. At 11 months, 2 of 4 trees dead. At 30 months, 4 of 4 trees dead. Suggest 1 cut/15-20cm.	trunk circumference 38-94.5cm	MESIC		TRIAL	2018-04-23
Acacia		Fabaceae		OANRP	cut-stump	40% G4, 60% Biodiesel	5-successful. Recommended method	Rate might be too strong. Worth trying a lower percentage.				OBSERVED	2015-03-11
Acacia						0% G4, 60% Biodiesel	5-successful. Recommended method					OBSERVED	2015-03-11
Acacia	mangium	Fabaceae	mangium wattle	OANRP	cut-stump	20% G4, 80% Biodiesel	5-successful. Recommended method					OBSERVED	2015-03-11
Acacia	mangium	Fabaceae	mangium wattle	OANRP	girdle	20% G4, 80% Biodiesel	5-successful. Recommended method					OBSERVED	2015-03-04
Agave													2015-03-04
Ageratina	riparia	Asteraceae	Hamakua pamakani	OANRP	clip and drip	20% G4, 80% Biodiesel	5-successful. Recommended method			MESIC		OBSERVED	2015-03-04
Ageratina	riparia	Asteraceae	Hamakua pamakani	OANRP	basal-bark	20% G4, 80% Biodiesel	5-successful. Recommended method					OBSERVED	2015-03-04
Ageratina	riparia	Asteraceae	Hamakua pamakani	OANRP	foliar	1% Round-up, 99% water	5-successful. Recommended method			MESIC		OBSERVED	2015-03-04
Ageratina	adenophora	Asteraceae	Maui pamakani	OANRP	cut	20% G4, 80% Biodiesel	5-successful. Recommended method	cut stems above aerial root. may need to treat cut stalks if laid on ground to prevent resprouts.		MESIC		OBSERVED	2015-03-04
Ageratina	adenophora	Asteraceae	Maui pamakani	OANRP	basal-bark	20% G4, 80% Biodiesel	5-successful. Recommended method					OBSERVED	2015-03-04
Aleurites	moluccana	Euphorbiaceae	Euphorbiaceae	CTAHR/OANRP	IPA-Incision Point Application	100% Polaris	5-successful. Recommended method	Trial complete, 30 months. 4 cuts/tree, 0.5ml/cut. At 6 months, major defoliation. At 10 months, 2 of 5 trees dead (circum < 81cm). At 30 months, 5 of 5 trees dead. Suggest 1 cut/15-20cm.	trunk circumference 61-104cm	MESIC		TRIAL	2018-04-24
Aleurites	moluccana	Euphorbiaceae	Euphorbiaceae	CTAHR/OANRP	IPA-Incision Point	100% Milestone	4-more than	Trial complete, 30 months. 4 cuts/tree, 0.5ml/cut. At	trunk	MESIC		TRIAL	2018-04-23

- Genus, Species, Family & Common Name
- Organization
- Date Entered
- Control Technique
- Herbicide Mix (Cocktail)
- Treatment Notes
- Size class
- Trial or Observation
- Habitat Type
- Environmental factors
- Satisfaction Rating

New additions:

Axonopus fissifolius, carpet grass

Montanoa hibiscifolia, tree daisy

Prosopis pallida, kiawe

Taxa not well represented in the spreadsheet:

Palms

Bamboos

Begonias

Agaves

Bromeliads

Cactuses and succulents

Ferns

Contribute to the Spreadsheet!

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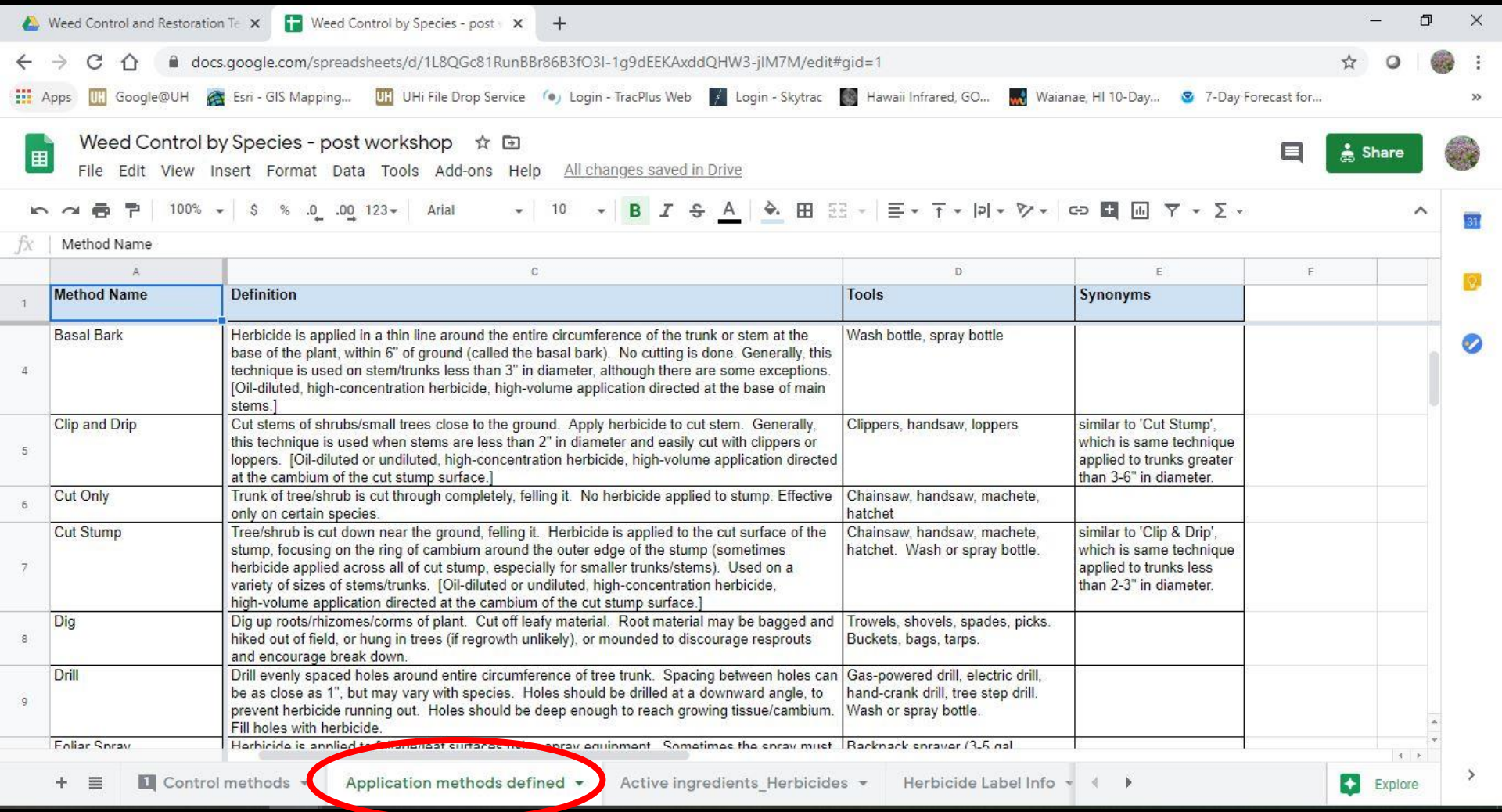
Application Methods



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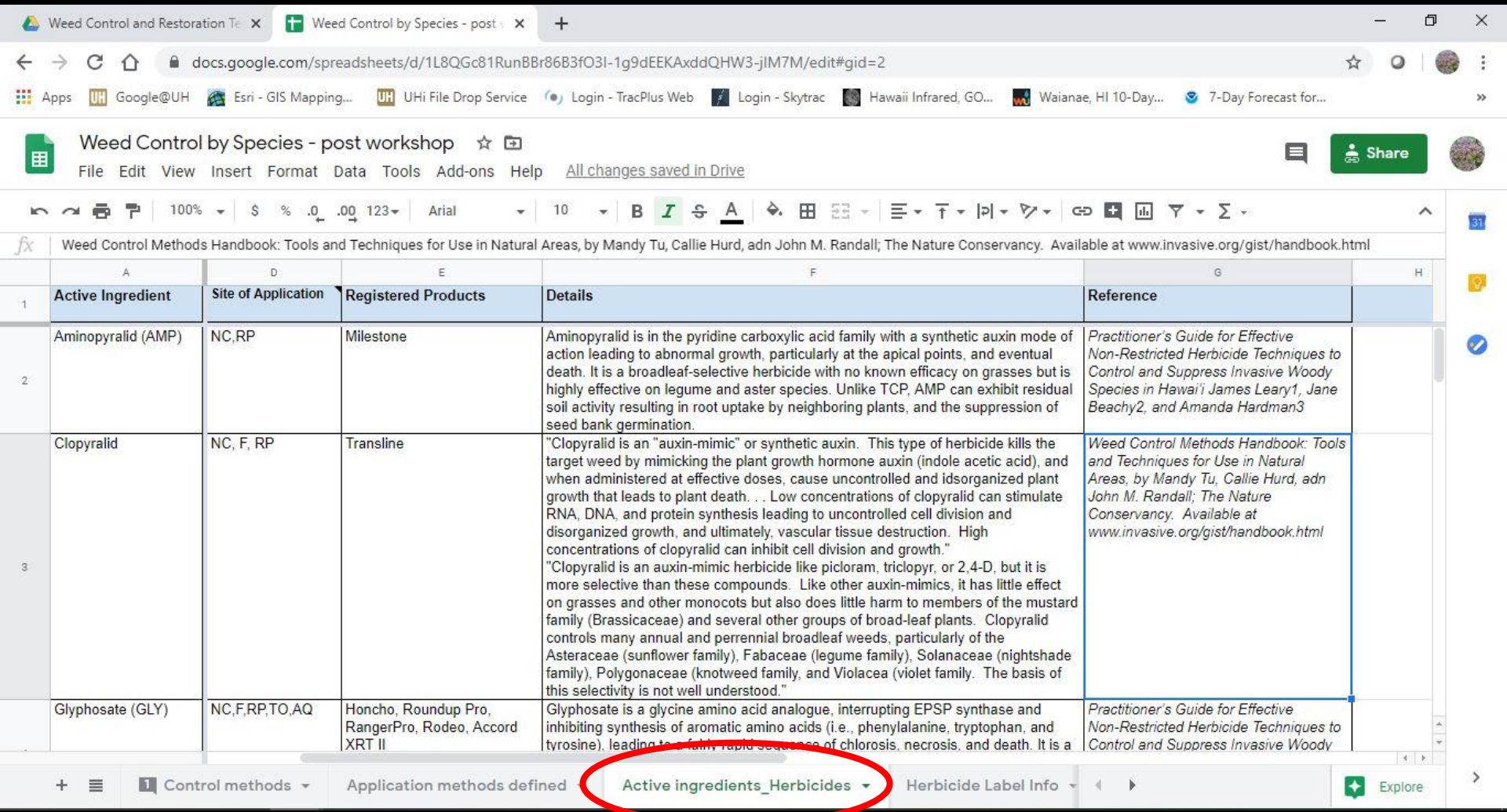
Method Name

	A	C	D	E	F
1	**Method Name**	**Definition**	**Tools**	**Synonyms**	
4	Basal Bark	Herbicide is applied in a thin line around the entire circumference of the trunk or stem at the base of the plant, within 6" of ground (called the basal bark). No cutting is done. Generally, this technique is used on stem/trunks less than 3" in diameter, although there are some exceptions. [Oil-diluted, high-concentration herbicide, high-volume application directed at the base of main stems.]	Wash bottle, spray bottle		
5	Clip and Drip	Cut stems of shrubs/small trees close to the ground. Apply herbicide to cut stem. Generally, this technique is used when stems are less than 2" in diameter and easily cut with clippers or loppers. [Oil-diluted or undiluted, high-concentration herbicide, high-volume application directed at the cambium of the cut stump surface.]	Clippers, handsaw, loppers	similar to 'Cut Stump', which is same technique applied to trunks greater than 3-6" in diameter.	
6	Cut Only	Trunk of tree/shrub is cut through completely, felling it. No herbicide applied to stump. Effective only on certain species.	Chainsaw, handsaw, machete, hatchet		
7	Cut Stump	Tree/shrub is cut down near the ground, felling it. Herbicide is applied to the cut surface of the stump, focusing on the ring of cambium around the outer edge of the stump (sometimes herbicide applied across all of cut stump, especially for smaller trunks/stems). Used on a variety of sizes of stems/trunks. [Oil-diluted or undiluted, high-concentration herbicide, high-volume application directed at the cambium of the cut stump surface.]	Chainsaw, handsaw, machete, hatchet. Wash or spray bottle.	similar to 'Clip & Drip', which is same technique applied to trunks less than 2-3" in diameter.	
8	Dig	Dig up roots/rhizomes/corms of plant. Cut off leafy material. Root material may be bagged and hiked out of field, or hung in trees (if regrowth unlikely), or mounded to discourage resprouts and encourage break down.	Trowels, shovels, spades, picks. Buckets, bags, tarps.		
9	Drill	Drill evenly spaced holes around entire circumference of tree trunk. Spacing between holes can be as close as 1", but may vary with species. Holes should be drilled at a downward angle, to prevent herbicide running out. Holes should be deep enough to reach growing tissue/cambium. Fill holes with herbicide.	Gas-powered drill, electric drill, hand-crank drill, tree step drill. Wash or spray bottle.		
	Foliar Spray	Herbicide is applied to [illegible] spray equipment. Sometimes the spray must	Backpack sprayer (3-5 gal		

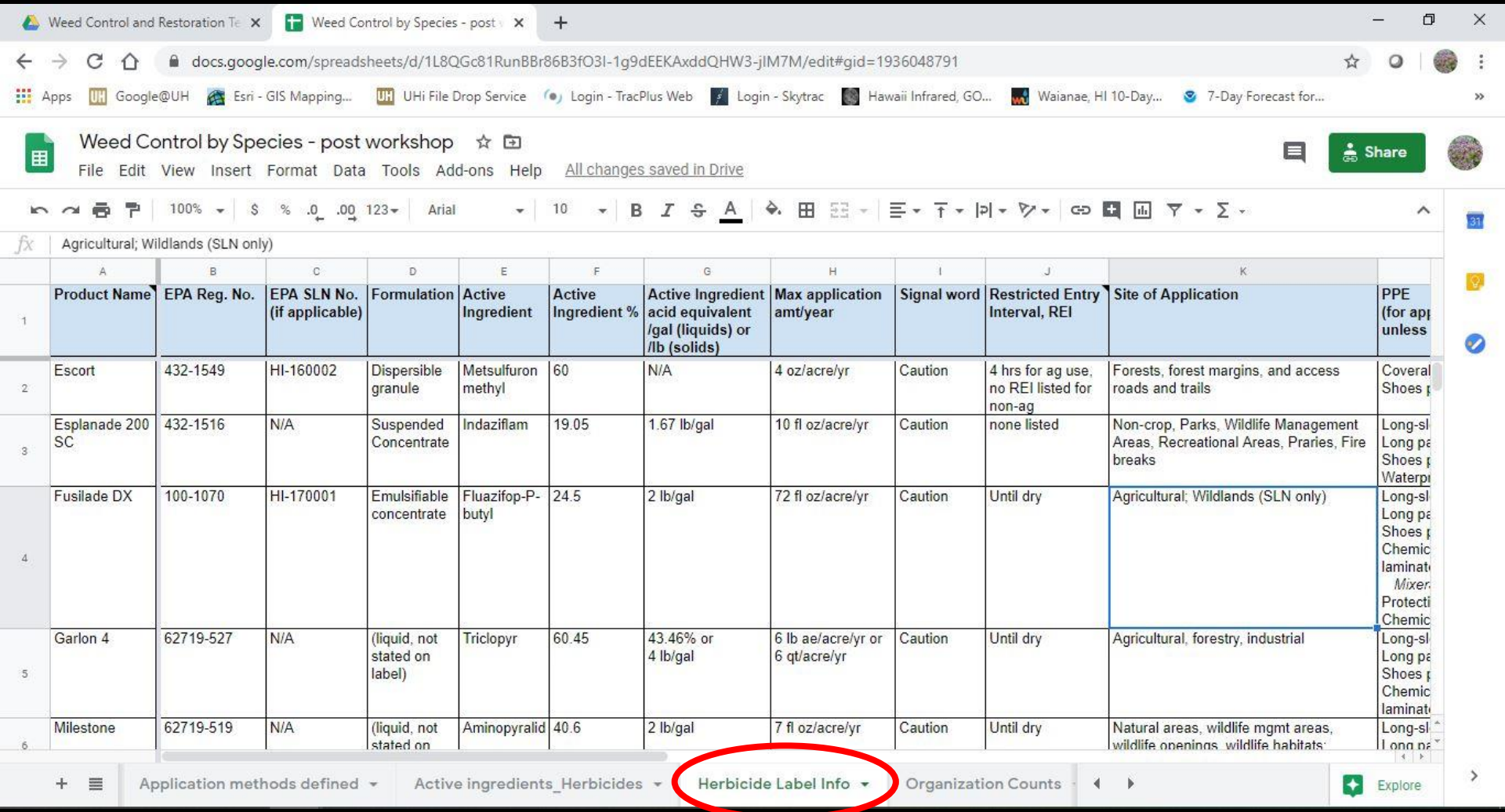
Control methods | Application methods defined | Active ingredients_Herbicides | Herbicide Label Info | Explore

Active Ingredient Information



Active Ingredient	Site of Application	Registered Products	Details	Reference
Aminopyralid (AMP)	NC,RP	Milestone	Aminopyralid is in the pyridine carboxylic acid family with a synthetic auxin mode of action leading to abnormal growth, particularly at the apical points, and eventual death. It is a broadleaf-selective herbicide with no known efficacy on grasses but is highly effective on legume and aster species. Unlike TCP, AMP can exhibit residual soil activity resulting in root uptake by neighboring plants, and the suppression of seed bank germination.	*Practitioner's Guide for Effective Non-Restricted Herbicide Techniques to Control and Suppress Invasive Woody Species in Hawai'i James Leary1, Jane Beachy2, and Amanda Hardman3*
Clopyralid	NC, F, RP	Transline	"Clopyralid is an "auxin-mimic" or synthetic auxin. This type of herbicide kills the target weed by mimicking the plant growth hormone auxin (indole acetic acid), and when administered at effective doses, cause uncontrolled and idsorganized plant growth that leads to plant death. . . Low concentrations of clopyralid can stimulate RNA, DNA, and protein synthesis leading to uncontrolled cell division and disorganized growth, and ultimately, vascular tissue destruction. High concentrations of clopyralid can inhibit cell division and growth." "Clopyralid is an auxin-mimic herbicide like picloram, triclopyr, or 2,4-D, but it is more selective than these compounds. Like other auxin-mimics, it has little effect on grasses and other monocots but also does little harm to members of the mustard family (Brassicaceae) and several other groups of broad-leaf plants. Clopyralid controls many annual and perrennial broadleaf weeds, particularly of the Asteraceae (sunflower family), Fabaceae (legume family), Solanaceae (nightshade family), Polygonaceae (knotweed family, and Violacea (violet family. The basis of this selectivity is not well understood."	*Weed Control Methods Handbook: Tools and Techniques for Use in Natural Areas, by Mandy Tu, Callie Hurd, adn John M. Randall; The Nature Conservancy. Available at www.invasive.org/gist/handbook.html*
Glyphosate (GLY)	NC,F,RP,TO,AQ	Honcho, Roundup Pro, RangerPro, Rodeo, Accord XRT II	Glyphosate is a glycine amino acid analogue, interrupting EPSP synthase and inhibiting synthesis of aromatic amino acids (i.e., phenylalanine, tryptophan, and tyrosine), leading to a fairly rapid sequence of chlorosis, necrosis, and death. It is a	*Practitioner's Guide for Effective Non-Restricted Herbicide Techniques to Control and Suppress Invasive Woody*

Herbicide Label Summary



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fx Agricultural; Wildlands (SLN only)

	Product Name	EPA Reg. No.	EPA SLN No. (if applicable)	Formulation	Active Ingredient	Active Ingredient %	Active Ingredient acid equivalent /gal (liquids) or /lb (solids)	Max application amt/year	Signal word	Restricted Entry Interval, REI	Site of Application	PPE (for ap unless
2	Escort	432-1549	HI-160002	Dispersible granule	Metsulfuron methyl	60	N/A	4 oz/acre/yr	Caution	4 hrs for ag use, no REI listed for non-ag	Forests, forest margins, and access roads and trails	Coveral Shoes
3	Esplanade 200 SC	432-1516	N/A	Suspended Concentrate	Indaziflam	19.05	1.67 lb/gal	10 fl oz/acre/yr	Caution	none listed	Non-crop, Parks, Wildlife Management Areas, Recreational Areas, Praries, Fire breaks	Long-sl Long pa Shoes Waterp
4	Fusilade DX	100-1070	HI-170001	Emulsifiable concentrate	Fluazifop-P-butyl	24.5	2 lb/gal	72 fl oz/acre/yr	Caution	Until dry	Agricultural; Wildlands (SLN only)	Long-sl Long pa Shoes Chemic laminat Mixer Protecti Chemic
5	Garlon 4	62719-527	N/A	(liquid, not stated on label)	Triclopyr	60.45	43.46% or 4 lb/gal	6 lb ae/acre/yr or 6 qt/acre/yr	Caution	Until dry	Agricultural, forestry, industrial	Long-sl Long pa Shoes Chemic laminat
6	Milestone	62719-519	N/A	(liquid, not stated on	Aminopyralid	40.6	2 lb/gal	7 fl oz/acre/yr	Caution	Until dry	Natural areas, wildlife mgmt areas, wildlife openings, wildlife habitats;	Long-sl Long pa

Application methods defined | Active ingredients_Herbicides | Herbicide Label Info | Organization Counts | Explore