

gachina
landscape management



IPM Urban Weed Control Techniques:

Case Studies



Weed Control Techniques

Mechanical/Chemical/Sustainable Alternatives

- » Crew with harnesses (slopes), string trimmers (2-cycle engines),
- » Resulting debris (will need to be hauled)
- » Crew endangerment
- » Noise and air pollution from equipment
- » QAC/QAL applications of glyphosate or other systemic chemicals
- » Negative environmental impacts
- » Negative public perception
- » Alt: Goats/sheep
- » Requires electric fencing and experienced handlers
- » No pollution
- » Quiet
- » No debris to haul
- » Natural fertilization during project
- » Alt: Sheet mulching
- » Long-term control if sheet material properly installed
- » Combined with mulch is an aesthetic solution for weedy areas
- » Can protect native plantings during establishment
- » Conserves water while greatly reducing weed germination
- » Alt: Arbor mulch
- » Free material!
- » Reusing waste product from arbor activities
- » Enriches soil as it breaks down
- » Conserves water while reducing weed germination
- » 100% organic and sustainable and regenerative

Biotech Campus, South San Francisco 2018

Year 1: Crews with line-trimmers

xxxxxxx Weed Abatement Site Risk Assessment

Location:

Days: (circle)	Mon	Tue	Fri	Sat	Sun	Date:	
Crew Leader:					Site:		
Site Supervisor:					Cell #		
People on site: (Use back if needed)							
Site Hazard Assessment		Tasks					
Hazard	Check if present and identified in site briefing – leave blank if not relevant			Task	Check if relevant		
Entry and Exit	Entry point identified			Hand Weeding			
	Exit points identified			Spraying (high vol)			
	Emergency meeting point			Spraying (backpack)			
Animal hazards	Snakes, Spiders, Ticks, Other			Brush Cutting			
Environment	Bushfire			Mulching			
	Flood/high flows			Hose Watering			
	Heat			Waste Disposal			
	Solar radiation			Cut and Paint			
	Uneven surfaces			Scrape and Paint			
	Wet/Fog			Chainsaw			
	Wind			Jute Matting			
	Steep Slope/Poor footing			Construction			
	Isolation			Pruning			
	Other workers and tools			Planting			
	Height/steep drops			Hand Watering			
Human Hazards	Needles			Tank Watering			
	Glass			Erosion Control			
	Overhead wires			Others:			
	Chemicals						
	Asbestos						
	Other						
Waste							
Other site hazards	Loose rocks/concrete						
Personal Protective Equipment Required							



Biotech Campus, South San Francisco 2018

Year 1: Crews with line-trimmers



Biotech Campus, South San Francisco 2019

Grazing approved – late arrival in July – note tall anise stalks



Biotech Campus, South San Francisco 2019

Pampas not yet in bloom



Biotech Campus, South San Francisco 2020

April 2020 site conditions – recommended May grazing operations



Biotech Campus, South San Francisco 2020

Arrival July 14 – note brown grasses, heavy anise stalks: less to eat and fuel has been on ground for a month



Biotech Campus, South San Francisco 2020

Operations were fast due to less material for the herd to eat – loaded out August 3 (total 21 days)



Biotech Campus, South San Francisco 2020

Areas appear overgrazed as no green will appear until winter rains; earlier grazing will leave grasses to grow for a time so will dry shorter in June. This gives a more uniform, “stabilized” appearance.



Diamond View Apartments, San Francisco

From the neighborhood



Neighbors enjoying the herd



Diamond View Apartments, San Francisco

Fall/winter grazing 2019 – 2020
2021: mid-March with added area



St. Ignatius Sports Field - Pacifica

Before



After



St. Ignatius Sports Field - Pacifica

Before



After



Comparison: Goats vs. Sheep – Appropriate technology

Goats

» Foragers

- Will eat just about anything: grass, leaves, stems, small shrubs, lower tree branches, SOLAR PANEL WIRES!
- Will climb to reach new food sources
- Will try new things, such as plastic bottles, cables, wood fencing, etc.
- Will attempt escape if the grass looks greener on the other side; but will generally not move far from herd unless chased



Comparison: Goats vs. Sheep – Appropriate technology



Sheep

- » Grazers
 - Grass, grass, low weeds, and more grass
 - Do not climb or reach for low branches
 - Are not interested in woody material
 - Will not chew on wires or other infrastructure
 - Strongly herd-oriented and will not attempt escape from enclosure unless frightened by coyotes or other predators

Great for solar fields, where the curiosity of a browser is not welcome. Here they have been permanently installed at Susquehanna University ;

Photo Credit: Dave Hartman, Penn State Extension



Comparison: Goats vs. Sheep – Appropriate technology



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Sheep: Living Systems photos from HOA

Brown=sheep grazed; black=brush fire – HOA saved by grazing operations.



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Sheet mulching: large area weed elimination with sustained control



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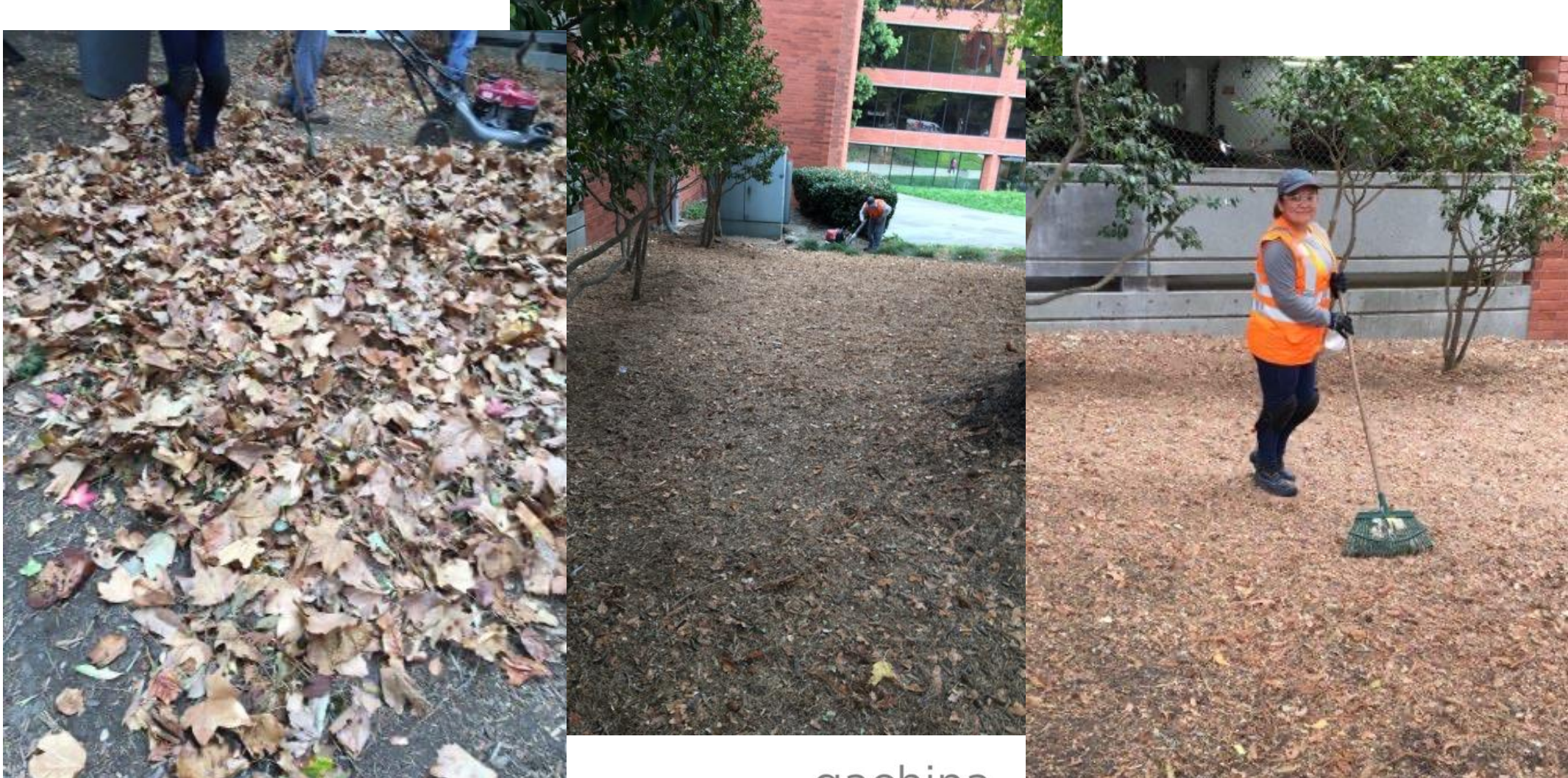


Sheet mulch: eliminate turf and control weeds



Mulch Mowing

A weed management technique by which weed germination is prevented by mulch



Chemical Weed Control Products

Field Testing

- » We avoid anything above “Caution” Signal word, and generally prefer OMRI certified for client confidence in safety.



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15415 Marquardt Avenue
Santa Fe Springs, CA 90670
800.352.3870
target-specialty.com

Product	Cntr Size	Active Ingredient(AI)	Form	Broad Spectrum/Selective	Post-Emergent	Pre-Emergent	Signal Word	OMRI
Dimension 2EW	2gal	Dithiopyr	1/2 gal	Selective	Yes(*)	yes	Warnin	No
Dimension 40WP		Dithiopyr		Selective	Yes(*)	yes	Caution	No
St Paul w/ Dimensio	50lb	Dithiopyr	50lb bag	Selective	Yes	yes	Caution	no
Gallery 75DF	1lb	Isoxaben	1lb	Selective	No	Yes	Caution	
Gallery SC	2gal	Isoxaben	2.5	Selective	No	Yes	Caution	
Product	Cntr Size	Active Ingredient(AI)	Form		Post-Emergent	Pre-Emergent	Signal Word	OMRI
Scythe	2.5gal	Pelargonic Acid	2.5	Broad	Yes		Warning	no
Finale	2.5gal	Glufosinate	2.5	Broad	Yes		Warning	no
Suppress EC	2.5gal	Caprylic/Capric Acid		Broad	Yes		Warning	Yes
Lifeline	2.5gal	Glufosinate	2.5	Broad	Yes		Caution	no
Axxe	2.5gal	Ammonium nanoate	2.5	Broad	Yes		Warning	Yes
Cheetah	2.5gal	Glufosinate	2.5	Broad	Yes		Caution	no
Product	Cntr Size	Active Ingredient(AI)	Form		Post-Emergent	Pre-Emergent	Signal Word	OMRI
Weedzap		Clove & Cinn Oil	2.5gal	Broad	Yes	No	Caution	Yes
Avenger		Limonene	2.5gal	Broad	Yes	No	Caution	Yes
Finalsan		Ammoniate Soap of fatty Acid		Broad	Yes	No	Warning	Yes
Fiesta		Iron HEDTA	2.5gal	Selective	Yes	no	Caution	Yes
Product	Cntr Size	Active Ingredient(AI)	Form		Post-Emergent	Pre-Emergent	Signal Word	OMRI
Reward		Diquat dibromide	Gal	broad	yes		Warning	No
Rodeo		Glyphosate		broad	Yes		Caution	No
Vista XRT		Fluroxipyr		broad	Yes		Warning	No



Products we have tested/used:

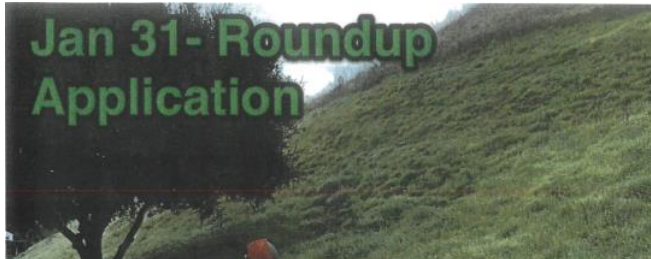
Scythe	Warning	discontinued use: moderate efficacy + PPE
Cheetah	Caution	discontinued use: moderate systemic success
Weedzap	Caution	continued use where we require burn-down only
Avenger	Caution	discontinued use: burn-down only and high cost
Fiesta	Caution	still in use for turf
Weed Rot	Warning	tested only: poor performance, required special handling and mixing (manufacturer rec. distilled water for efficacy)
EcoMight W.O.W.	Exempt	Currently in use and experiencing good efficacy

Weed Control Products

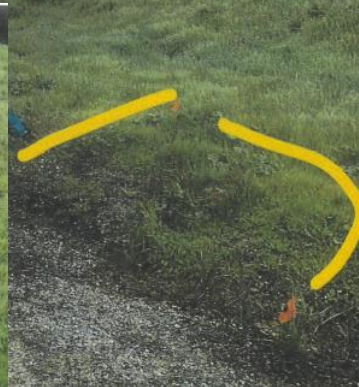
Field Testing

- » Gachina PHC department conducts testing to determine efficacy of products

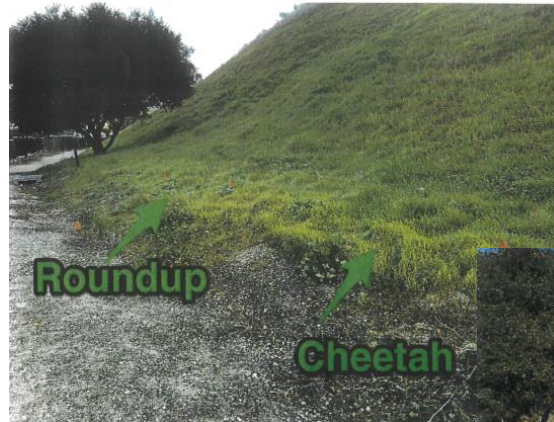
Jan 31- Roundup Application



Jan 31- cheetah application



After 5 days of the Application - Roundup and Cheetah



After 12 days of Application



What is "Minimum Risk Exempt FIFRA 25b"



“Because the EPA has determined that certain ‘Minimum Risk Pesticides’ pose little to no risk to human health or the environment, the EPA has exempted them from the requirement that they be registered under the Federal Insecticide, Fungicide, and Rodenticide Act. This exemption provision is located in 40 CFR 152.25(f).”

<https://www.facebook.com/GachinaLandscape/videos/579494629604875/>



