

Native Grasses and Groundcovers for the Arid Southwest

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Points of Discussion for Native Grasses and Groundcovers

INTRODUCTION



BENEFITS & APPLICATIONS

ESTABLISHMENT TRIAL



ALTERNATIVE PLANTING MATERIALS FOR LANDSCAPES

	Common name	S. Name
1	Alkali sacaton	<i>Sporobolus airoides</i>
2	Alkali muhly	<i>Muhlenbergia asperifolia</i>
3	Blue grama	<i>Bouteloua gracilis</i>
4	Buffalograss	<i>Bouteloua dactyloides</i>
5	Plains lovegrass	<i>Eragrostis intermedia</i>
6	Big Galleta	<i>Hilaria rigida</i>
7	Sand dropseed	<i>Sporobolus cryptandrus</i>
8	Spike dropseed	<i>Sporobolus contractus</i>
9	Teff	<i>Teff eragrostis</i>
10	Kurapia	<i>Lippia nodiflora</i>

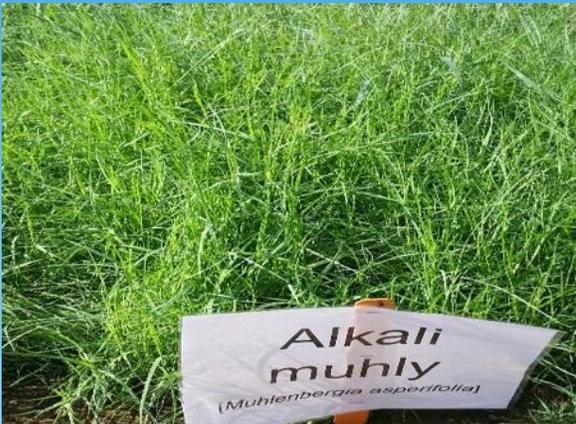
Grasses and Groundcover Performance



Native, warm-season,
Perennial bunchgrass,
Highly tolerant to drought,
alkaline, and saline soils.
Seed is very small



Native, warm season,
Perennial. Can be
established from seed
(burs) or sod



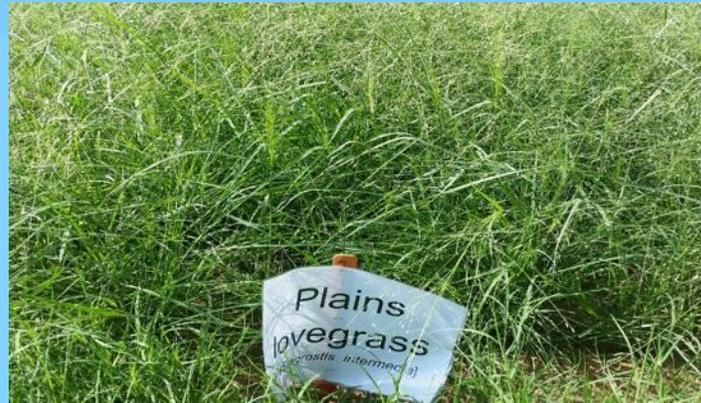
Native, warm-season,
Perennial sod grass,
Seed, rhizomes and
stolons.



Native, perennial.
Primarily by rhizomes.
Fast growing, long
lived, and very
drought tolerant



Native, warm season,
Tolerates a range of soil types,
Moderate to alkaline pH levels.
Spreads from rhizomes



Native, warm-season.
Perennial bunchgrass
Seed very small.
>3 million/lb.



Native, long-lived, perennial, warm-season bunchgrass. Plants are typically erect but may also be decumbent. 5.6 million seeds/lb., Extremely drought tolerant



Warm-season, annual grass, native to East Africa. It reaches 2 to 3.5 ft. It is adapted to environments ranging from drought-stressed to waterlogged soil conditions



Native, perennial, warm-season bunchgrass. 1.5 to 4 ft.



A sterile cultivar of *Lippia nodiflora*, a low-growing groundcover. Introduced from Japan.

Kurapia (*Lippia nodiflora*)

- Name: *Lippia nodiflora* L. 'Kurapia'
- Bred: Cultivar of *Lippia nodiflora* (syn. *Phyla nodiflora*)
- Common Name: Kurapia
- Plant Type: Perennial
- Growth Habit: Prostrate
- Flowers: Small, White, May to November
- Height: Low growing, less than 3" high
- Width: Spreading to 6 feet
- Exposure: Full sun to part shade
- Drought Tolerant: ETo 20% by drip irrigation (UC-Davis) and ETo 40% by sprinkler irrigation (UC-Davis)
- pH Tolerant: pH 4-9 (UC-Riverside)
- Salinity Tolerant: Up to EC 7ds/m
- Temperature: 13-120°F
- USDA Hardiness Zones: 7b-13b
- Sterile, doesn't produce viable seed
- Non-invasive as screened by UC Davis



Kurapia's Benefits

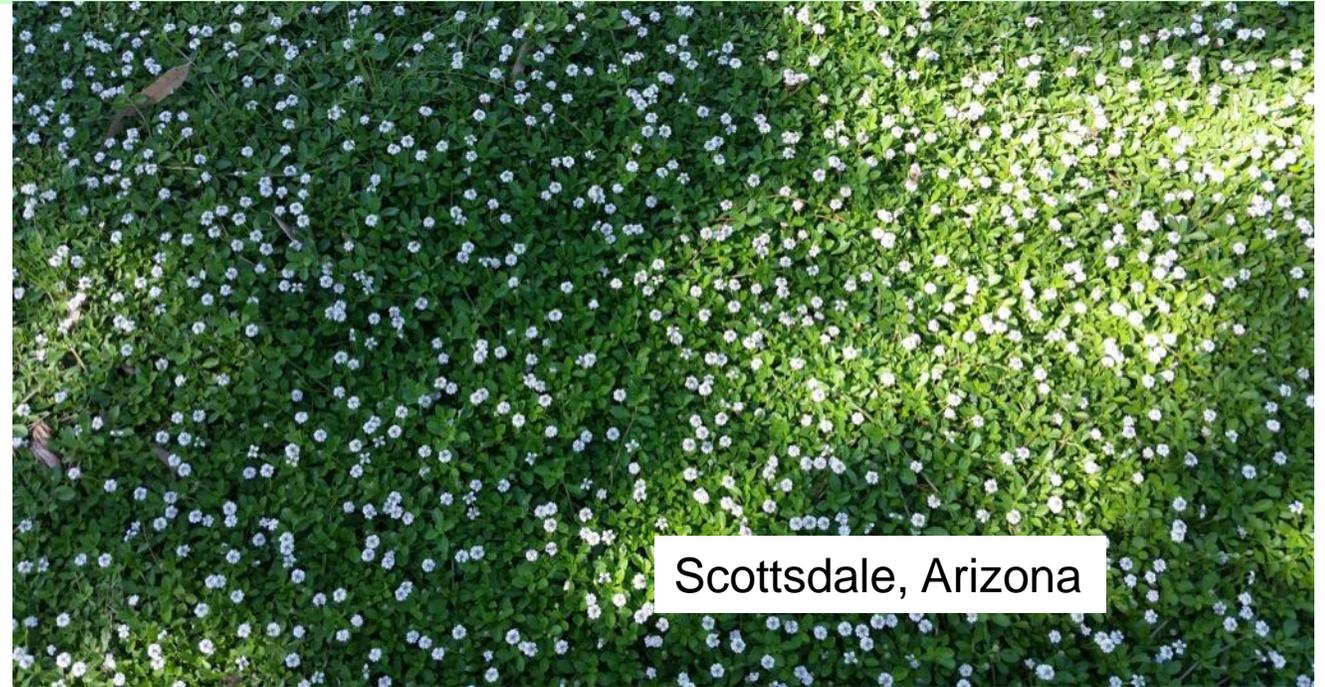
Low water use

- ⌘ Once established, can be irrigated at 20% of ETo (UC-Davis)
- ⌘ Outperformed other grasses in survivability and appearance at 40% of ETo (2012 UC Riverside)

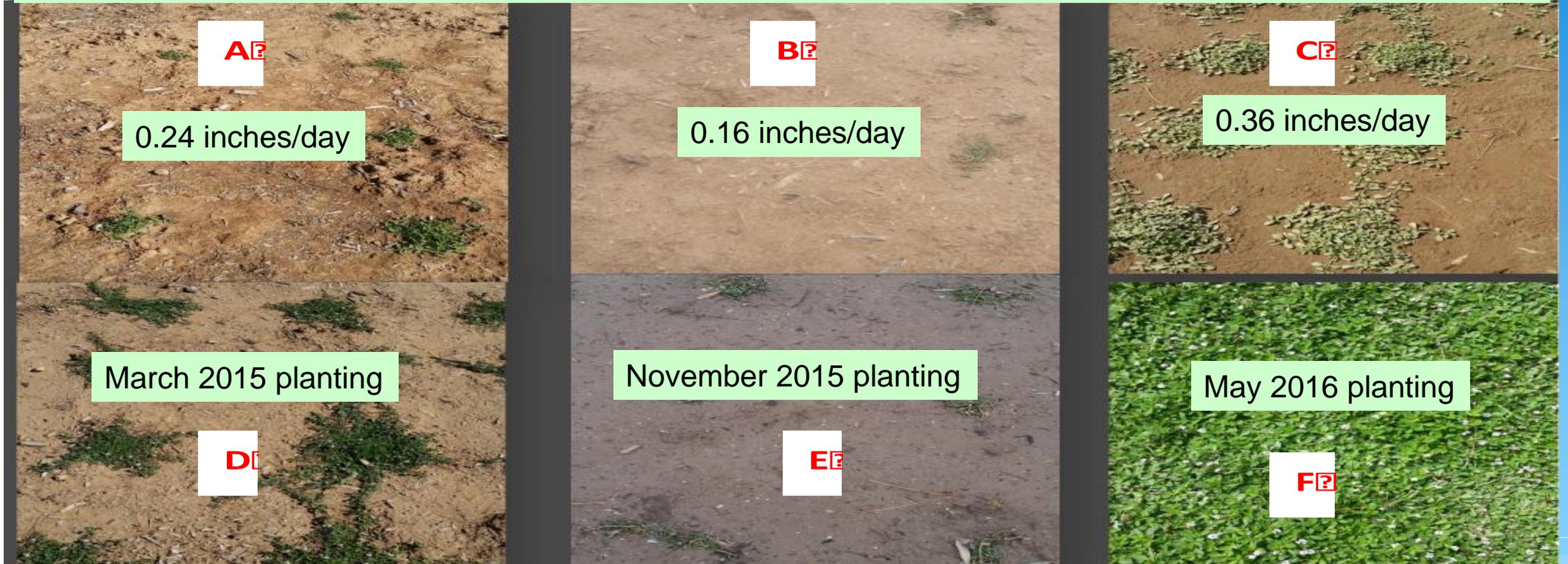


Low maintenance

Kurapia is a low-growing, compact perennial and its prostrate growth habit reduces the need for pruning



Optimum water is required for Kurapia establishment



Complete ground cover within 6 weeks (F) as compared to 12 weeks (D) and 24 weeks (E).

Kurapia's Benefits

Tolerates a range of pH and high salinity

- * Tolerates soils containing high salt
- * Tolerates wide range of pH (4-9)

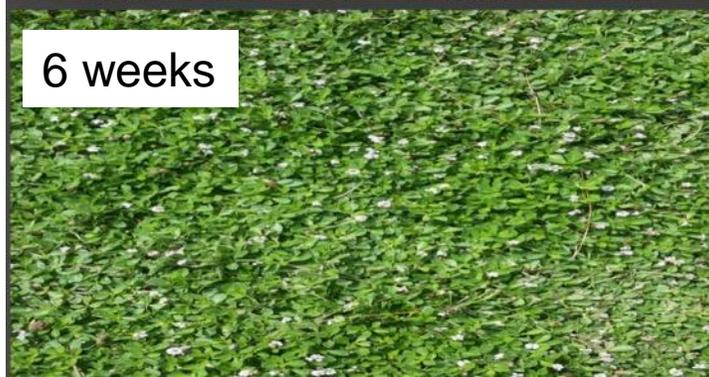
Kurapia's Benefits

Rapid Establishment

- Rapid growth rate and establishment,
- Recovers from drought stress and mechanical damage

Erosion Control

- Has an extensive root system
- The root system can be beneficial in reducing soil erosion and water runoff.



18" spacing

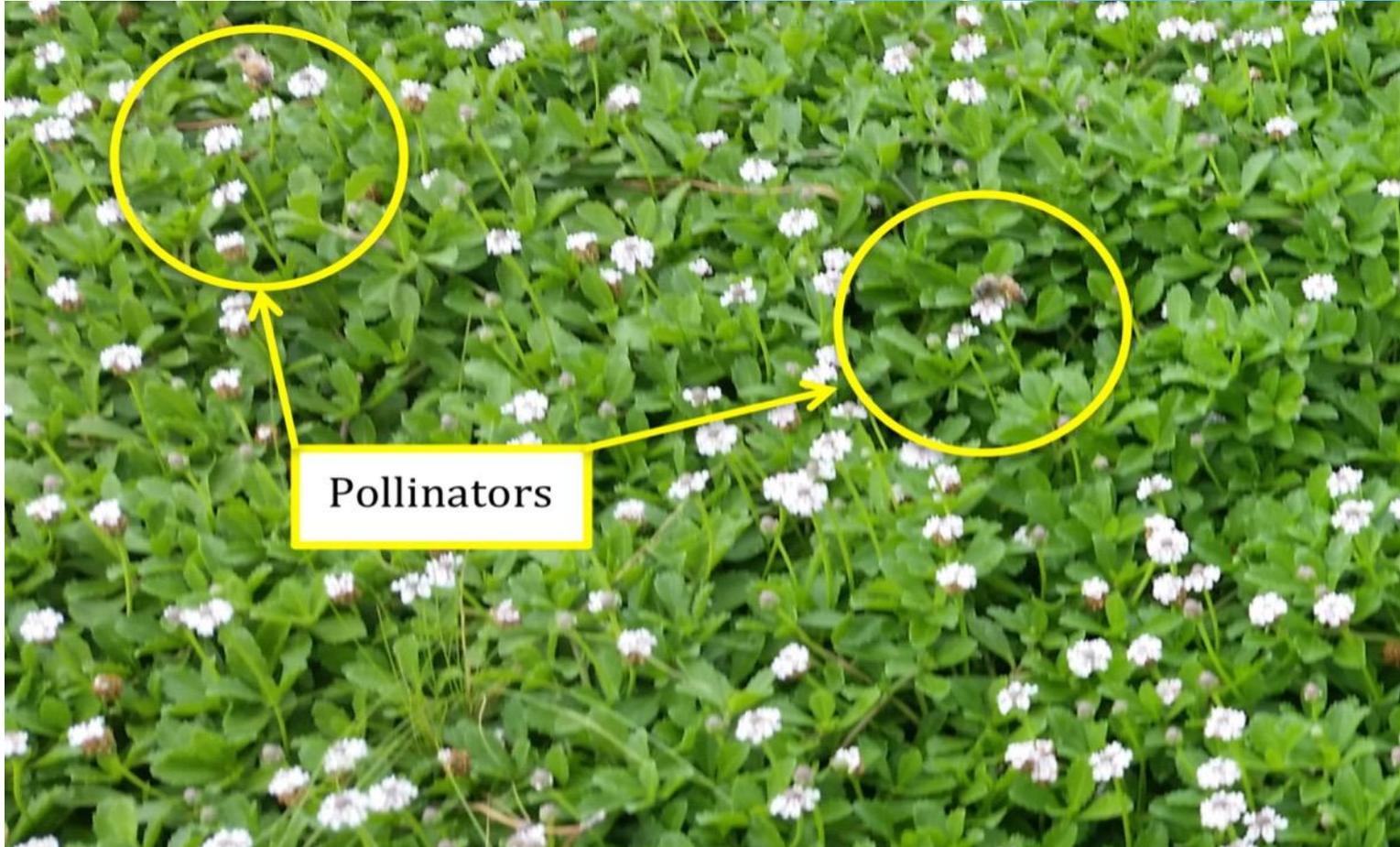
12" spacing

Growth rates at different plant spacings



Kurapia's Benefits

Long flowering season from May to October when not mowed



Flowers attractive to pollinators

Kurapia's Benefits

Beautiful appearance when mowed



Mowed 1/3 of top

Not Mowed

Mowed 1/2 of top

Applications



Freeway, Highway, Road and Street Areas



Residential areas



Public Utilities areas



Sport Fields



Park and Recreational areas



Commercial areas

Herbicides evaluated for safety on Kurapia

Camelback Golf Club, Scottsdale, Arizona, 2015/2016



Table 1. Preemergence herbicides evaluated for Kurapia

Herbicide Product	Active Ingredient	Target	Product rate	A.I rate Per acre
Sureguard	flumioxazin	Broadleaf	8 oz.	0.25 lb
Ronstar	oxadiazon	Broadleaf, grasses	200 lb	4 lb
Pendulum	pendimethalin	Grasses	4.2 quart	4 lb
Specticle	indaziflam	Broadleaf	3.5 oz.	0.044 lb
Tower	dimethenamid-p	Grasses, broadleaf	32 oz	1.5 lb
Gallery	isoxaben	Broadleaf	1.3 lb	1 lb
Barricade	prodiamine	Grasses	2.3 lb	1.5 lb
Kerb	pronamide	Winter annuals	3.5 pt	1.25 pt

Table 2. Postemergence herbicides evaluated for Kurapia

Herbicide Product	Active Ingredient	Target	Product rate/acre	A.I rate/are
Tribute Total	halosulfuron +foramsulfuron +thiencarbazon	Grass/broad/sedge	6.4 oz.	0.16 lb
Lontrel	clopyralid	Broadleaf	1.33 pt.	0.5 lb
Vista	fluroxypyr	Broadleaf	22 oz.	0.625 lb
Speedzone Southern	carfentrazone +2,4-D +MCP +dicamba	Broadleaf	6 pt.	0.4 lb
Trimec 1000	2,4-D +MCP +dicamba	Broadleaf	4 pt.	1.63 lb
Fusilade II	fluazifop	Grass	24 oz.	0.37 lb
Sedgehammer	halosulfuron	Sedge	1.33 lb.	0.062 lb
Certainty	sulfosulfuron	Grass/broad/sedge	2 oz.	0.062 lb
Tenacity	mesotrione	Grass/broad	8 oz.	0.2 lb
Celsius	iodosulfuron +dicamba +thiencarbazon	Broad/grass	7.4 oz.	0.26 lb
Drive XLR8	quinclorac	Broad/grass	64 oz.	0.75 lb
Dismiss	sulfentrazone	Broad/grass/sedge	12 oz.	0.375 lb

Figure 1. Kurapia response to preemergence herbicides

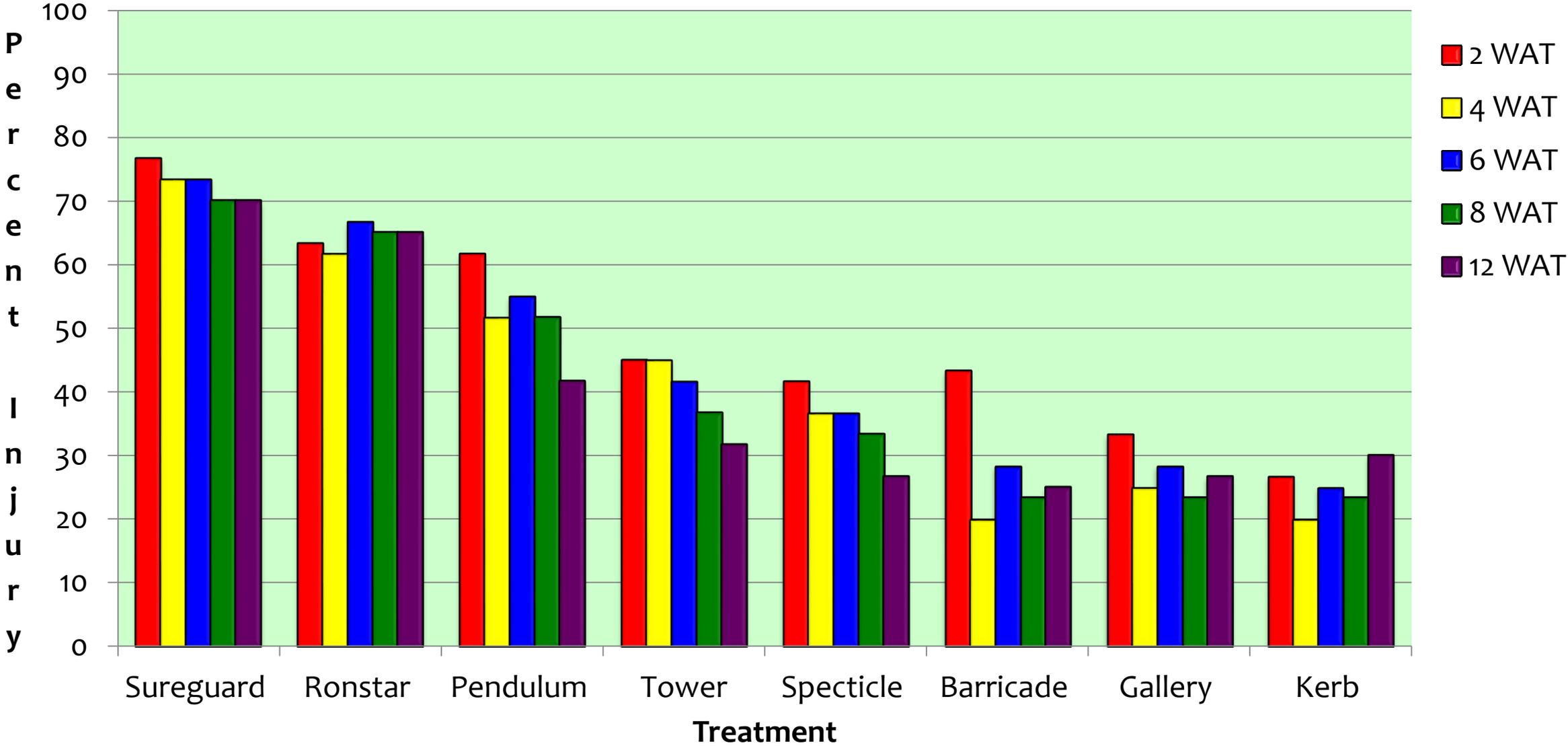
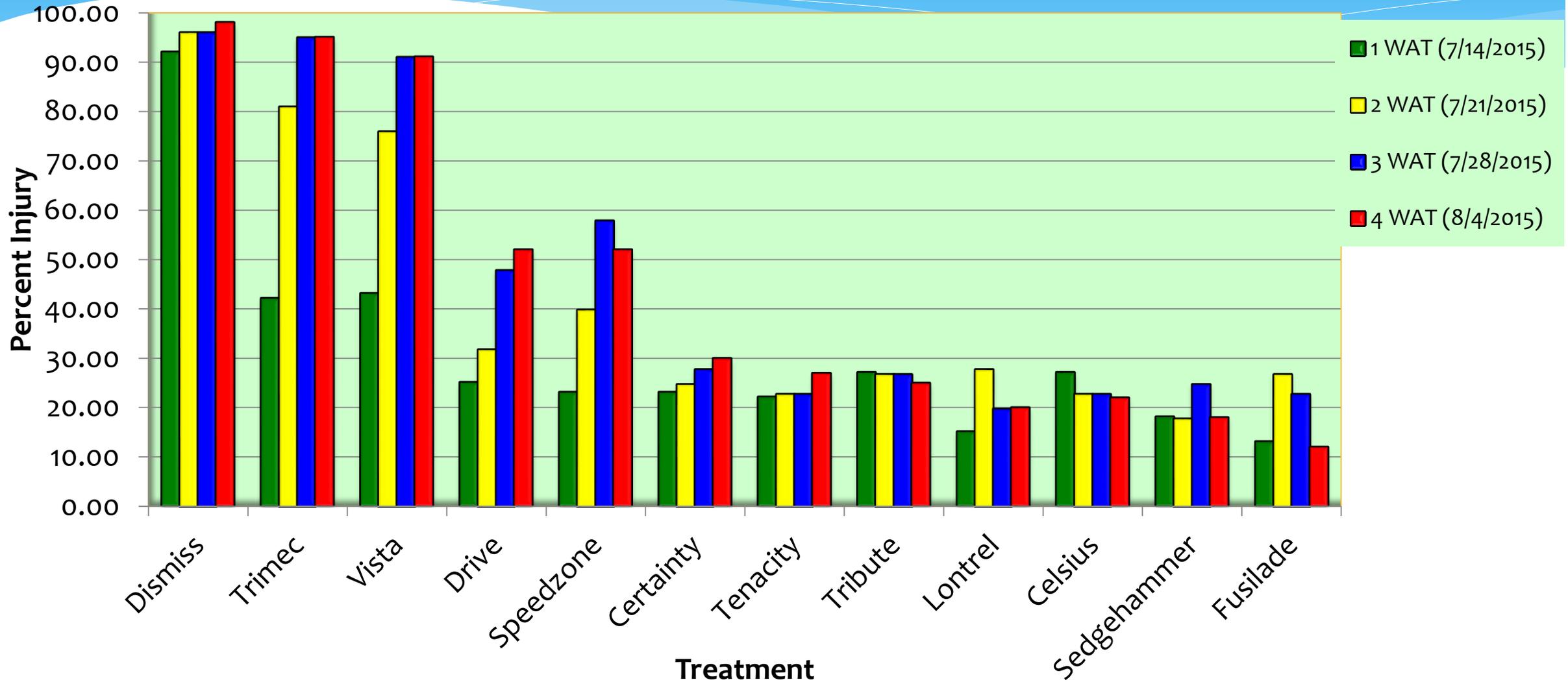


Figure 2. Kurapia response to postemergence herbicides



Relatively safer preemergence herbicides for Kurapia

Kerb



Barricade



Gallery



Tower



Kurapia injury >60%

Ronstar



Sureguard



Relatively safer postemergence herbicides for Kurapia

Fusilade II



Sedgehammer



Kurapia injury >90%

Dismiss



Vista



Trimec 1000





THANK YOU!