

A Florida Guide to Gopher Tortoise Friendly Plants



Gopher tortoises graze on a variety of native and nonnative plants, including broadleaf grasses, wiregrass, prickly pear grass, wild grape, blackberry, blueberry, and many more. They generally feed within 160 feet of their burrows but have been known to travel more than twice that distance to meet their foraging needs.

If you are fortunate enough to share your property with a gopher tortoise or are looking to attract a gopher tortoise to your yard, there are ways you can help this threatened species. Many plants can be used to enhance tortoise forage in your neighborhood and yard while still maintaining a “landscaped” look.

Background information



This guide is a comprehensive list of plant species that can be planted and used to enhance available forage for gopher tortoises, along with additional information you need to make good decisions on selecting species to purchase and plant. Florida's widely varied environment includes four different growing zones but the gopher tortoise's range is limited due to the need for certain soils, moisture regimes, light, and proximity to coastal conditions. While some plant species grow easily across the entire state, others require the specific conditions of a particular region of the state to thrive.

The purpose of this guide is to identify the type of plants by region and address the informational needs of homeowners in regard to plants that can be used to enhance gopher tortoise forage. The following tables provide a comprehensive list of plants based on common gopher tortoise forage needs. To discover which plants suit both you and the gopher tortoise's needs, find your FWC region in the picture below and match it with the table. The first table matches your county with its USDA hardiness zones (see additional resources for more information), which determines which plants are most likely to thrive in a location. The second

table matches those hardiness zones with different plant species that will enhance your property and help meet a tortoise's foraging needs.

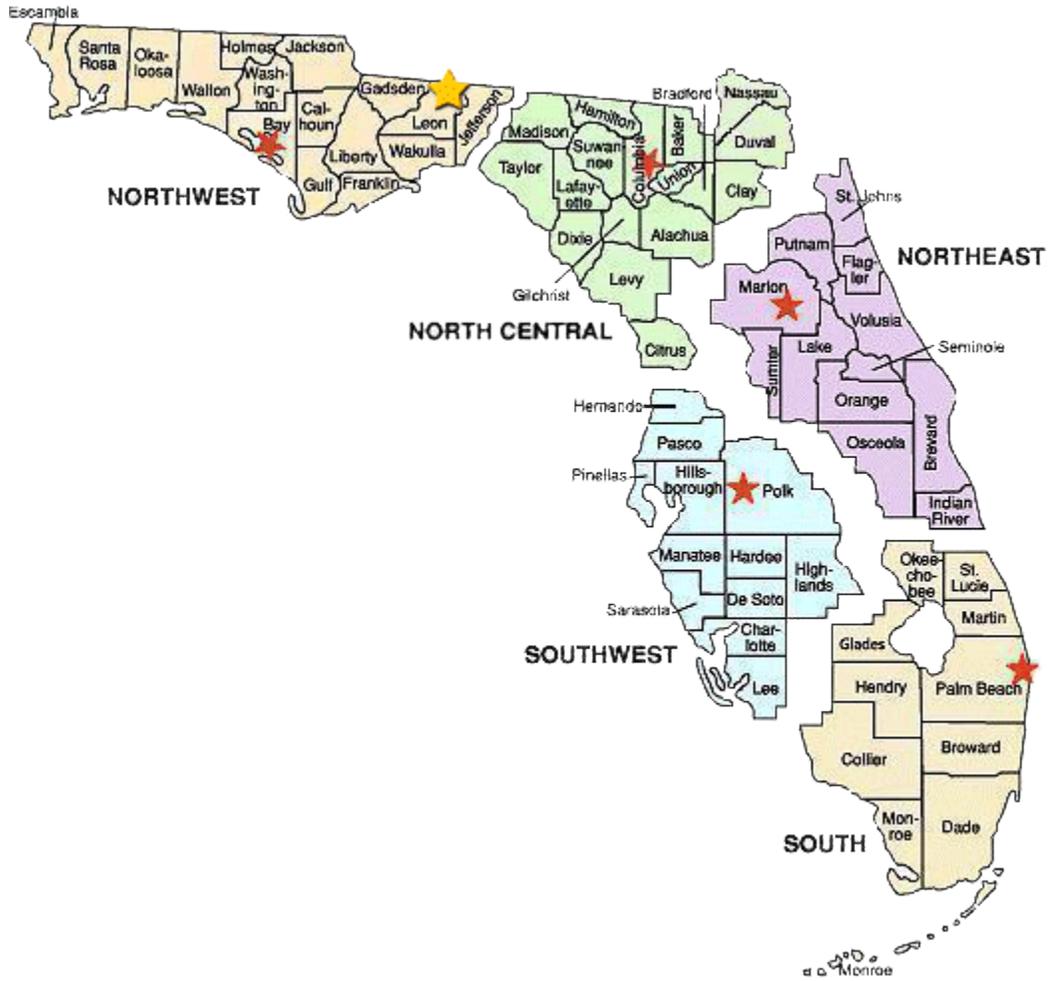


TABLE: III-A2 Gopher tortoise forage plant zones by region		Plant Communities	1 Beach Dunes	2 Saltwater Marsh	3 Maritime Forest	4 Mangrove Swamp	5 Wetland Swamp Forest	6 Cypress Swamp Forest	7 Freshwater Marshes	8 Hydric Hammock	9 Prairies	10 Region Open Scrub Cypress	11 Sandhills	12 Upland Mesic Hardwood F	13 Upland Mixed Forest	14 Scrub Forest	15 Pine Flatwoods	16 Forests with Cabbage Palm	17 Rockland Hammock	18 Pine Rockland	19 Wet/Dry Prairie Marsh Marl	
FWC Region	Florida Counties	Planting USDA Hardiness Zones																				
Northeast Region Office: 1239 S.W. 10th Street Ocala, FL 34471-0323 352-732-1225	Brevard	9b, 10a, 10b	X	X	X	X	X		X	X	X					X	X					
	Flagler	9a	X	X	X	X	X	X		X				X		X	X					
	Indian River	9a, 10a, 10b	X		X		X			X	X	X					X	X				
	Lake	9a, 9b					X			X	X			X			X	X				
	Marion	8b, 9a					X			X	X			X	X		X	X				
	Orange	9a, 9b					X			X	X	X		X			X	X		X		
	Osceola	9b					X	X		X	X			X			X	X				
	Putnam	8b, 9a					X			X	X			X			X	X				
	Seminole	9a, 9b					X			X	X			X				X	X			
	St. John's	9a		X	X	X	X			X				X			X	X				
	Sumter	9b					X			X				X	X		X	X				
Volusia	9a, 9b		X		X		X	X		X	X		X			X	X	X				
Southwest Region Office: 3900 Drane Field Road Lakeland, FL 33811-1207 863-648-3200	Charlotte	9b, 10a, 10b	X	X	X	X	X	X		X	X					X	X					
	De Soto	9a, 9b					X			X	X		X				X					
	Hardee	9a					X			X			X	X		X	X					
	Hernando	9a		X		X	X			X			X	X		X	X					
	Highlands	9a, 9b					X			X	X	X		X			X	X				
	Hillsborough	9a, 9b, 10a		X		X	X			X				X			X	X				
	Lee	9a, 10a, 10b	X	X	X	X		X									X	X				
	Manatee	9a, 9b, 10a, 10b	X		X							X		X				X				
	Pasco	9a, 9b		X		X								X	X		X	X				
	Pinellas	9b, 10a, 10b	X	X	X	X								X				X				
	Polk	9a, 9b					X			X	X			X	X		X	X				
Sarasota	9a, 9b, 10a, 10b	X		X							X						X					
South Region Office: 8535 Northlake Boulevard West Palm Beach, FL 33412 561-625-5122	Broward	10a, 10b	X	X	X		X	X	X	X	X				X	X			X	X	X	
	Collier	10a, 10b		X		X	X	X	X	X	X	X	X			X			X	X	X	
	Dade (Miami- Dade)	10a, 10b, 11	X	X	X	X				X			X				X		X	X	X	
	Glades	9b					X			X	X	X		X			X	X				
	Hendry	9b, 10a								X		X	X				X		X	X		
	Martin	9a, 10a, 10b	X		X			X	X		X						X	X				
	Monroe	10a, 10b, 11	X	X	X	X				X		X	X				X		X	X	X	
	Okeechobee	9a, 9b, 10a					X			X	X	X		X			X	X				
	Palm Beach	9b, 10a, 10b	X		X			X	X		X						X	X				
St. Lucie	9b, 10a, 10b	X	X	X					X		X					X	X					

Considerations when planting for gopher tortoises

Forage importance

Plants you are considering to improve forage for gopher tortoises in Florida have varying levels in terms of their quality as food for tortoises. Forage importance is classified as very high, high, moderate and low:

- **Very High Level** forage species produce generally very high biomass; tortoises seek them out and prefer these plants over other available species.
- **High Level** forage species produce high biomass; tortoises seek them out.
- **Moderate Level** forage species are those that tortoises will seek out but they produce a low to moderate amount of biomass or may produce a lot of biomass for a very short amount of time (as in seasonal fruits).
- **Low Level** forage species are those plants tortoises will eat when they are available or perhaps because that plant is all that is available. Tortoises may even avoid these plant species when others are available. Some very restricted seasonal fruits (that are preferred and sought out) are classified as low level because they are so rarely available to the tortoises in any quantity, and the tortoise must compete with other wildlife for the biomass amount that is available.



The plant species listed are primarily herbaceous, flowering species because herbaceous forage makes up approximately 90% of a typical gopher tortoise's diet. While woody trees, shrubs, and vines often drop fruit (or leaves) that gopher tortoises feed on, this is a very seasonal food source so most trees are listed as low or moderate.

Weeds

This leads to another issue: many plant species that gopher tortoises forage on are considered as “weeds” by most homeowners. These plant species are ones that lawn companies may try to get rid of with herbicides. Therefore, many of the species we recommend as the best choices for forage may be harmed by the typical lawn care practices of most communities. Therefore, we recommend limiting the use of herbicides on lawns that support these “weeds” or they may die soon after your lawn company applies standard treatments. For example, dandelions represent a significant amount of gopher tortoise forage biomass wherever they are growing. They are common in many lawns and yards and eliminating them with herbicides could have serious negative impacts on gopher tortoises that feed on them. The weeds may not even become an issue in your yard since the gopher tortoise can act as a “natural herbicide” as they forage on them (this is particularly true of dandelions).



Plant species origin

Another issue to consider before planting is the species origin. Landscapers and home gardeners have brought in plants from all over the world, often without any knowledge of how these will behave in the natural environments of Florida. Many of these species are able to out-compete Florida natives because they lack the control of disease, insects, or the wildlife which naturally feed on them. Once established, these hardy nonnative species can become very difficult to eradicate, displacing Florida natives. These species are then considered invasive, and can be very detrimental to the local ecosystem, including the gopher tortoise's habitat. Once a nonnative species becomes invasive it takes over the local environment, often eradicating the native plant populations. If an invasive species were to be introduced into a gopher tortoise's habitat, it could diminish the native plants that are essential the gopher tortoise's nutrition, making it hard or impossible for them to survive there.

However, not all exotic plants brought into Florida become invasive in natural areas. Most escaped nonnative plant species usually present only minor problems in highly disturbed areas (such as roadsides). In fact, every crop plant and most ornamental landscape or aquarium plants used in the United States originated outside this country. Most of these species remain in cultivation and continue to provide benefits in their intended settings. Many of these landscape species or escaped non-native species are already wide spread and currently being foraged by gopher tortoises. For those reasons, nonnative species are included in the table as recommended for forage and landscaping purposes. However we recommend using caution and good judgment while planting nonnative species, particularly if a species is listed as having invasive concerns.



Additional resources

Florida Native Plant Society (FNPS)

USDA Plant Hardiness Zones

Institute of Food and Agricultural Sciences (UF/IFAS)

Florida Exotic Pest Plant Council (FLEPPC)

Definitions

Introduced - An individual plant species placed in a new habitat or environment.

Established - Introduction of plant resulting in continuation or permanence of a population.

Native – A species whose natural range includes Florida.

Exotic (nonnative) - A plant species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida, such as another region, state or country.

Naturalized exotic – An exotic plant that sustains itself outside cultivation (it is still exotic; it has not "become" native).

Ornamentals – Plant species created or selected for their “attractive appearance” for use in landscaping.

Invasive – Aggressive expansion of an established plant population that out-competes native species.

Invasive exotic – An exotic plant that not only has naturalized, but is expanding on its own in Florida native plant communities.

TABLE: V-1A Proposed Gopher Tortoise Forage Plant Selections to Recommend by Category

Forage Value: L –eaten but low biomass M- sought out but low biomass H- sought out high biomass VH- preferred

Landscape Value: 1-attractive flowers 2-filling attractive greenery 3-low maintenance 4-wildlife/butterfly use
5-noticeable/ attractive fruit 6-Ornamental Fall Color

* Allergy Concern ** Invasive Concern ***Dermatitis Concerns

Category	Scientific Name	Common Name	Level of Usage as Forage VH, H, M, L	Level of Usage for Landscape	Native Or Non-Native	Hardiness Zones in Florida
WOODY	<i>Genus species</i>					
TREES	<i>Asimina triloba</i>	Edible Pawpaw	M	2,4,5	N	8
	<i>Coccoloba diversifolia</i>	Pigeonplum	M	2,5	N	10a, 11
	<i>Coccoloba uvifera</i>	Seagrape	M	2	N	9, 10, 11
	<i>Diospyros kaki</i>	Japanese Persimmon	L-M	2,5,6	N-N	8, 9a
	<i>Diospyros virginiana</i>	Persimmon	L-M	2,3,5	N	8,9
	<i>Eriobotrya japonica</i>	Loquat	M	2,5	N-N	8,9,10,11
	<i>Eugenia confusa</i>	Red Stopper	L	2,5	N	10b-11
	<i>Eugenia foetida</i>	Spanish Stopper	L	2,5	N	10b-11
	<i>Morus rubra</i>	Mulberry***	M	2,5	N	N,C,S
	<i>Prunus angustifolia</i>	Chickasaw plum	L-M	1,5	N	8,9
	<i>Prunus mexicana</i>	Mexican plum	L-M	1,2,5	N	8
	<i>Prunus persica</i>	Peach	L-M	1,2,5	N-N	8
	<i>Prunus umbellata</i>	Flatwoods Plum	L-M	1,2,5	N	8,9
	<i>Rhus copallina</i>	Sumac, Winged	M	1,2,5,6	N	8,9,10
	<i>Sideroxylon celastrinum</i>	Saffron Plum	M	1,2,5	N	8,9,10,11
SHRUBS	<i>Asimina spp.</i>	Pawpaw	L-M	1,2,5	N	8,9,10
	<i>Callicarpa americana</i>	Beautyberry	M	1,2,5	N	8,9,10
	<i>Chrysobalanus icaco</i>	Coco Plum	M	1,2,5	N	10a, 11
	<i>Eugenia uniflora**</i>	Surinam Cherry	L	2,5,6	N-N	9b-11
	<i>Gaylussacia dumosa</i>	Dwarf Huckleberry	H	2,4,5	N	8,9
	<i>Gaylussacia frondosa</i>	Blue Huckleberry	H	2,4,5	N	8,9
	<i>Gamolepis spp.</i>	Bush Daisy	M-H	1,2	N-N	8b,9,10,11
	<i>Hibiscus spp.</i>	Hibiscus	M-H	1,2,4	N	9,10,11
	<i>Lantana depressa**</i>	Weeping Lantana	M	1,2,4	N	8,9,10,11
	<i>Lespedeza spp.**</i>	Lespedezas	M-H	1,2,4	N	8,9
	<i>Lespedeza bicolor</i>	Bush clover	L	1,2,4	N-N	8,9
	<i>Rubus spp.</i>	Blackberry	H-VH	1,4,5	N	8,9,10
	<i>Sabal etonia</i>	Scrub palmetto	L-M	2,3,4	N	9,10,11
	<i>Sabal minor</i>	Dwarf Palmetto	L-M	2,3,4	N	8,9,10
	<i>Serenoa repens</i>	Saw Palmetto	M-VH	2,3,4	N	8,9,10
	<i>Stachytarpheta spp.</i>	Porterweed	M	1,2,4	N-N	9a,10,11

TABLE: V-1B Proposed Gopher Tortoise Forage Plant Selections to Recommend by Category

Forage Value: L –eaten but low biomass M- sought out but low biomass H- sought out high biomass VH- preferred

Landscape Value: 1-attractive flowers 2-filling attractive greenery 3-low maintenance 4-wildlife/butterfly use
5-noticeable/ attractive fruit 6-Ornamental Fall Color

* Allergy Concern ** Invasive Concern ***Dermatitis Concerns

Category	Scientific Name	Common Name	Level of Usage as Forage VH, H, M, L	Level of Usage for Landscape	Native Or Non-Native	Hardiness Zones in Florida
WOODY	<i>Genus species</i>					
SHRUBS	<i>Vaccinium arboreum</i>	Sparkleberry	M-H	1,2,4,5	N	8,9,10
	<i>Vaccinium corymbosum</i>	Blueberry	H	1,2,4,5	N	8,9,10
	<i>Vaccinium darrowii</i>	Blueberry	H	1,2,4,5	N	8,9,10
	<i>Vaccinium myrsinites</i>	Blueberry	H	1,2,4,5	N	8,9,10
	<i>Yucca aloifolia</i>	Spanish Bayonet	L-M	1,2,4,5	N	8,9,10,11
VINES	<i>Centrosema spp.</i>	Butterfly Pea	M	1,4,5	N	8,9,10
	<i>Ipomoea spp.</i>	Railroad vine	L-M	1,2,3	N	9,10,11
	<i>Passiflora spp.</i>	Passion Flower	L-M	1,2,4,5	N	8b,9,10,11
	<i>Passiflora incarnata</i>	Maypop	L-M	1,2,4,5	N	8b,9,10,11
	<i>Vitis aestivalis</i>	Summer Grape	VH	2,4,5	N	8,9
	<i>Vitis rotundifolia</i>	Wild Grape	VH	2,4,5	N	8,9
	<i>Vitis spp.</i>	Cultivated grapes	VH	2,4,5	N	8,9
HERBACEOUS						
FLOWER	<i>Aster spp.</i>	Aster	M-VH	1,2,4,5	N	8, 9a
	<i>Berlandiera spp.</i>	Greeneyes	H	1,2,4,5	N	8a,8b
	<i>Borrchia frutescens</i>	Sea Oxeye	M	1,2,4,5	N	10,11
	<i>Carphephorus spp.</i>	Paintbrush	VH	1,2,4	N	8b,9,10,11b
	<i>Chaptalia tomentosa</i>	Pineland Daisy	H	1,2,4	N	8,9
	<i>Chrysopsis spp.</i>	Golden Aster	H	1,2,4	N	8,9,10,11
	<i>Coreopsis spp.</i>	Coreopsis	H	1,4	N	8,9,10
	<i>Commelina spp.</i>	Dayflower	H	1,2,4	N	8,9,10,11
	<i>Gaillardia spp.</i>	Blanket Flower	H	1,2,4,5	N	8,9,10,11
	<i>Helianthus spp.</i>	Sunflower	L-M	1,2,4,5	N	8b,9,10,11
	<i>Kalanchoe spp.</i>	Kalanchoe	L	1,2,4,5	N-N	10,11
	<i>Liatris spp.</i>	Gayfeather	L-M	1,2,4,5	N	8,9,10
	<i>Licania michauxii</i>	Gopher Apple	H	2,4,5	N	8b,9,10,11
	<i>Lupinus spp.</i>	Lupine	M-H	1,2,4,5	N	8,9
	<i>Opuntia spp.</i>	Prickly Pear	M-VH	1,2,4,5	N	8,9,10,11
	<i>Oxalis spp.</i>	Woodsorrel	M-H	1,2,4	N	8,9,10,11
	<i>Petunia hybrida</i>	Petunia	L-M	1,2,4,5	N-N	8,9,10,11
	<i>Penstemon spp.</i>	Beardtongue	M	1,2,4	N	9,10,11

TABLE: V-1C Proposed Gopher Tortoise Forage Plant Selections to Recommend by Category

Forage Value: L –eaten but low biomass M- sought out but low biomass H- sought out high biomass VH- preferred

Landscape Value: 1-attractive flowers 2-filling attractive greenery 3-low maintenance 4-wildlife/butterfly use
5-noticeable/ attractive fruit 6-Ornamental Fall Color

* Allergy Concern ** Invasive Concern ***Dermatitis Concerns

Category	Scientific Name	Common Name	Level of Usage as Forage VH, H, M, L	Level of Usage for Land- scape	Native Or Non-Native	Hardiness Zones in Florida
HERBACEOUS	<i>Genus species</i>					
FLOWERS	<i>Physalis spp.</i>	Groundcherry	L-M	1,2,4,5	N	8,9,10,11
	<i>Portulacca spp.</i>	Portulacca	VH	1,2,3,4	N	8,9,10,11
	<i>Ruellia caroliniensis</i>	Petunia, Wild	M	1,4	N	8
	<i>Verbena spp.</i>	Verbena	H	1,2,4	N	9,10,11
	<i>Verbena tennisecta</i>	Moss Verbena	H	1,2,4	N	9,10,11
	<i>Viola spp.</i>	Pansy, Violets	H	1,2,4	N	8,9,10,11
	<i>Wedelia trilobata**</i>	Wedelia	M	1,2,4	N-N	8b,9,10,11
GRASS-LIKE	<i>Bulbostylis spp.</i>	Hairsedge	H	2	N	8,9,10,11
	<i>Carex spp.</i>	Woodland sedge	M-H	2	N	8,9,10,11
	<i>Cyperus spp.</i>	Sedge, Flatsedge	H-VH	2	N	8,9,10,11
	<i>Eleocharis spp.</i>	Spikerush	M	2	N	8,9,10,11
	<i>Fimbristylis spp.</i>	Fimbry	M	2	N	8,9,10,11
	<i>Fuirena spp.</i>	Umbrella sedge	M	2	N	8,9,10,11
	<i>Kyllingia spp.</i>	Spikesedge	M	2	N	8,9,10,11
	<i>Plantago spp.</i>	Plantain	M	2	N	8,9,10,11
	<i>Rhynchospora spp.</i>	Beaksedge	M-H	2	N	8,9,10,11
	<i>Scleria spp.</i>	Nutrush	H	2	N	8,9,10,11
	<i>Xyris spp.</i>	Yellow-eyed Grass	L-M	1,2,4	N	8,9,10,11
GRASSES	<i>Agrostis perennans</i>	Upland bent grass	M	2	N	8,9
	<i>Amphicarpum muhlenbergianum</i>	Blue Maidencane	H	2	N	8,9,10

TABLE: V-3 Proposed Gopher Tortoise Forage Weed Plant Selections to Convince People Not to Destroy

Forage Value: L –eaten but low biomass M- sought out but low biomass H- sought out high biomass VH- preferred

Landscape Value: 1-attractive flowers 2-filling greenery 3-low maintenance 4-wildlife/butterfly use

5-noticeable/ attractive fruit 6-Ornamental Fall Color

* Allergy Concerns ** Invasive Concerns***Dermatitis Concerns

Category	Scientific Name	Common Name	Level of Usage as Forage VH, H, M, L	Level of Usage for Landscape	Native Or Non-Native	Hardiness Zones
HERBACEOUS	<i>Genus species</i>					
WEEDS	<i>Ambrosia artemisiifolia</i>	Common Ragweed*	M	2,3,4	N	8,9,10
	<i>Ambrosia hispida</i>	Coastal Ragweed*	M	2,3,4	N	9b,10
	<i>Bidens alba</i>	Beggar's Ticks	VH	1,2,4	N	8,9,10
	<i>Bidens bipinnata</i>	Spanish Needles	VH	1,2,4	N	8,9,10
	<i>Bidens pilosa</i>	Spanish Needles	VH	1,2,4	N	8,9,10
	<i>Cirsium spp.</i>	Thistle	H-VH	1,2,4	N	8,9,10,11
	<i>Cnidoscolus stimulosus</i>	Treadsoftly***	H-VH	1,2	N	
	<i>Diodia teres</i>	Poor Joe	VH	2,4	N	8,9
	<i>Diodia virginiana</i>	Virginia buttonweed	VH	1,2,4	N	8,9
	<i>Ernodea littorales</i>	Beach Creeper	H	1,2,4	N	10b, 11
	<i>Piriqueta caroliniana</i>	Pitted Stripeseed	M	1,2,4	N	8,9,10,11
	<i>Polygala spp.</i>	Milkwort	L-H	1,2,4	N	
	<i>Phyla nodiflora</i>	Capeweed	H	1,2,4	N	8,9,10,11
	<i>Richardia brasiliensis**</i>	Mex. Clover	VH	1,2,4	N-N	9,10,11
	<i>Richardia scabra**</i>	Florida Pulsey	VH	1,2,4	N-N	8b,9,10
	<i>Rumex spp.</i>	Dock	M-H	1,2,4	N	8,9