

Section 1: Plant Identification

Real photos load when you have internet connection. Botanical illustrations are always available offline. ✓ **LEAVE** plants are natives to protect. ✗ **CONTROL** plants should be targeted in your spray program.

PLANT 1

Antelope Horns Milkweed

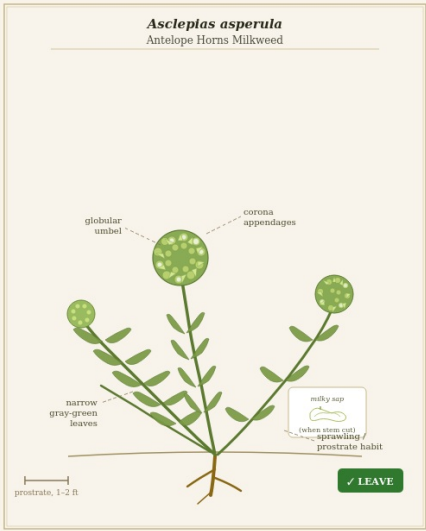
Asclepias asperula

✓ LEAVE

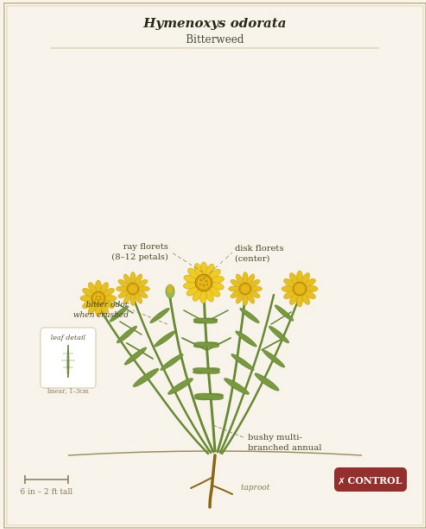
FIELD PHOTO (HAMILTON COUNTY)



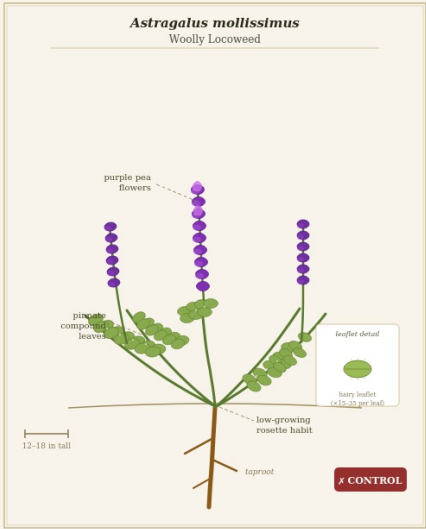
BOTANICAL ILLUSTRATION

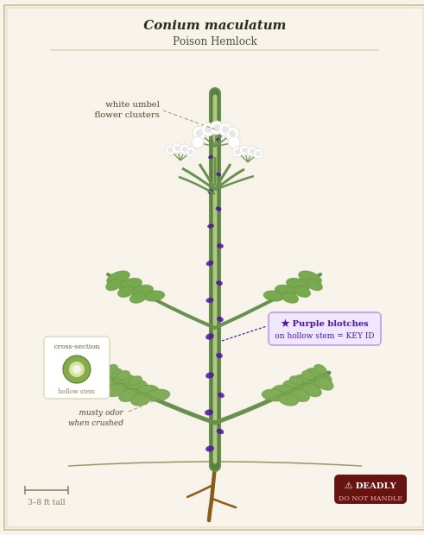


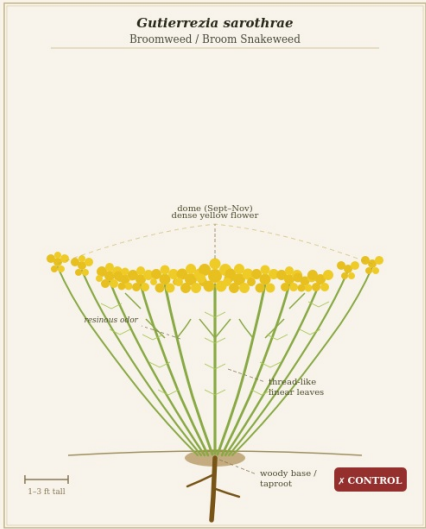
ID FEATURES	Greenish-white globe-shaped flower clusters; narrow gray-green fuzzy leaves; sprawling prostrate growth; milky sap when stem broken
HABITAT	Rocky well-drained soils, hillsides, disturbed range — common throughout Hamilton County
TOXICITY LOW TOXICITY	Mildly toxic (cardiac glycosides). Livestock avoid due to bitter taste. Low risk at normal densities.
 WILDLIFE BENEFITS	Primary Monarch butterfly host plant in Texas — Monarch caterpillars can ONLY eat milkweed. Also provides nectar for native bees, wasps, and other pollinators. Seeds with silky fibers used as nesting material by small birds. Critical to the Central Texas Monarch migration corridor.
 LOOKALIKE WARNING	Distinctive — not easily confused. The globe-shaped greenish flower cluster is unique.
RECOMMENDATION	LEAVE IT — Native beneficial plant. Indicator of undisturbed native range. Critical for Monarch butterflies.

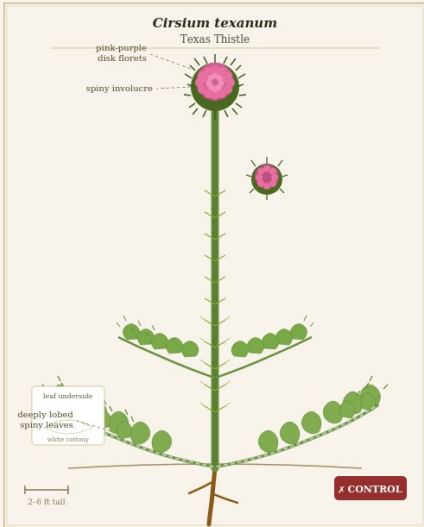
PLANT 2 Bitterweed <i>Hymenoxys odorata</i> X CONTROL	
FIELD PHOTO (HAMILTON COUNTY)	BOTANICAL ILLUSTRATION
	
ID FEATURES	Small yellow composite flowers on branching stems; narrow linear leaves; bushy multi-branched annual; strong bitter odor when crushed
HABITAT	Overgrazed rangeland, disturbed areas; explodes after late winter/spring rains — strong indicator of overgrazing
TOXICITY TOXIC	TOXIC — especially lethal to sheep. Cattle more tolerant but affected in large quantities. Bitter taste usually deters grazing but hungry animals will eat it.
 WILDLIFE BENEFITS	Minimal. Some native bees and flies visit the flowers. Abundance mostly signals degraded range — improving grass cover benefits wildlife far more than bitterweed itself.
 LOOKALIKE WARNING	Similar to Threadleaf Groundsel (Plant 3) — key difference is bitterweed is an annual with simpler leaves; groundsel is a woody perennial shrub.
BEST TIMING	Late Feb – early April at rosette stage. Spray again at flowering to prevent seed set.
RECOMMENDATION	CONTROL with 2,4-D or Grazon Next HL. Improve grass stand long-term to crowd it out.

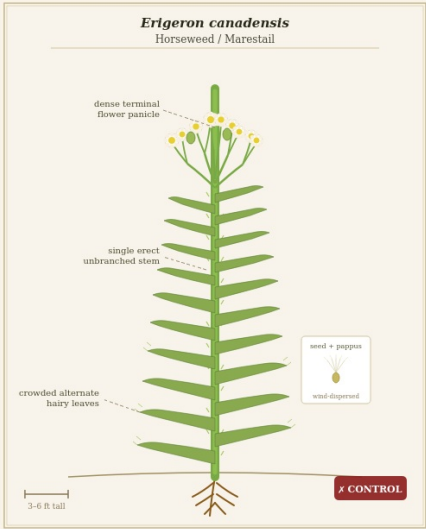
PLANT 3 Threadleaf Groundsel <i>Senecio flaccidus</i> X CONTROL	
REFERENCE PHOTO (REQUIRES INTERNET)	BOTANICAL ILLUSTRATION
	
ID FEATURES	Yellow daisy-like flowers (8–13 ray petals) on branch tips; narrow thread-like gray-green leaves divided into comb-like lobes; bushy perennial shrub to 4 ft; white woolly stems
HABITAT	Dry rocky/sandy soils, overgrazed rangelands, roadsides, disturbed areas
TOXICITY TOXIC	TOXIC — contains pyrrolizidine alkaloids (senecionine, retrorsine). Causes progressive liver failure in cattle and horses. Often misidentified as bitterweed.
 WILDLIFE BENEFITS	Showy flowers attract native bees, butterflies, and moths. Hummingbirds occasionally visit. Seeds eaten by small birds and rodents. Provides quick groundcover that stabilizes bare soil.
 LOOKALIKE WARNING	Very similar to Bitterweed (Plant 2) — key difference: Groundsel is a perennial shrub with woodier base and more divided leaves; Bitterweed is an annual.
RECOMMENDATION	CONTROL. Same program as bitterweed: 2,4-D or Grazon Next HL at rosette/early growth stage.

PLANT 4 Woolly Locoweed <i>Astragalus mollissimus</i> X CONTROL	
REFERENCE PHOTO (REQUIRES INTERNET)	BOTANICAL ILLUSTRATION
	
ID FEATURES	Low-growing rosette; pinnately compound leaves with 15–35 hairy leaflets; purple to reddish-purple pea-like flowers on upright stalks; forms dense patches
HABITAT	Sandy or rocky soils, disturbed ground, roadsides, overgrazed pastures
TOXICITY TOXIC	TOXIC — causes "locoweed" poisoning (locoism). Neurological damage: staggering, erratic behavior, vision loss. ADDICTIVE to livestock — animals seek it out. Can be fatal with prolonged consumption.
 WILDLIFE BENEFITS	Early-season nectar for native bees and some butterfly species. Larval host for several <i>Colias</i> (sulphur) butterfly species. Minimal benefit compared to livestock hazard — control is strongly advised.
 LOOKALIKE WARNING	Several <i>Astragalus</i> species in Texas; purple pea flowers and compound hairy leaves are key ID markers. Once you see locoism in an animal you will recognize the plant immediately.
RECOMMENDATION	CONTROL. Grazon Next HL most effective. Spot spray patches in early spring. Remove affected animals from pasture.

PLANT 5 Poison Hemlock <i>Conium maculatum</i>		X CONTROL
REFERENCE PHOTO (REQUIRES INTERNET)		BOTANICAL ILLUSTRATION
		
ID FEATURES	⚠ Hollow purple-spotted stems (KEY ID feature); white umbrella-shaped flower clusters (umbel); finely divided fern-like leaves; musty unpleasant odor when crushed; grows 3–8 ft tall	
HABITAT	Creek bottoms, draws, disturbed moist areas, fence rows	
TOXICITY ⚠ DEADLY	⚠ DEADLY to all livestock and humans — even small amounts can kill. All parts toxic at all times. Contains coniine alkaloids causing respiratory paralysis.	
 WILDLIFE BENEFITS	No meaningful wildlife benefit. Some bird species (European starlings, house sparrows) can consume seeds without ill effect, which unfortunately aids its spread. Control is non-negotiable.	
⚠ LOOKALIKE WARNING	⚠ Can be confused with Wild Carrot (Queen Anne's Lace) or Wild Parsnip — ALWAYS check for hollow purple-spotted stems before handling. When in doubt, do NOT touch.	
RECOMMENDATION	CONTROL IMMEDIATELY. Grazon Next HL or 2,4-D. Wear gloves and long sleeves — can be toxic through skin. NEVER burn — smoke is toxic. Most common in your creek bottoms.	

PLANT 6 Broomweed / Broom Snakeweed <i>Gutierrezia sarothrae</i> X CONTROL	
REFERENCE PHOTO (REQUIRES INTERNET)	BOTANICAL ILLUSTRATION
	
ID FEATURES	Bushy rounded subshrub 1–3 ft; hundreds of tiny yellow flower heads in dense clusters at stem tips; narrow thread-like yellow-green leaves; woody base; strong resinous odor
HABITAT	Dry rocky/sandy soils throughout Central Texas; invades overgrazed and disturbed rangeland
TOXICITY MODERATE TOXICITY	Mildly toxic — saponins cause abortion and premature calving in cattle (10–60% of herd in heavy infestations). Rarely grazed voluntarily due to bitter taste.
 WILDLIFE BENEFITS	Late-season blooms (Sept–Nov) provide nectar for butterflies and native bees when few other plants are flowering. Seeds eaten by Lesser Prairie-Chicken, Scaled Quail, and Black-tailed Jackrabbit. Provides thermal cover for quail and small mammals in winter.
 LOOKALIKE WARNING	Similar to annual broomweed (<i>Amphichyris</i>) but perennial with woodier base; similar to rabbitbrush but has ray flowers. The strong resinous smell is distinctive.
RECOMMENDATION	CONTROL. Strong indicator of overgrazing. 2,4-D works well. Best long-term fix is rest and grass recovery — thick grass crowds it out. Fire also effective.

PLANT 7 Texas Thistle <i>Cirsium texanum</i> X CONTROL	
REFERENCE PHOTO (REQUIRES INTERNET)	BOTANICAL ILLUSTRATION
	
ID FEATURES	Spiny leaves and stems with sharp prickles; rose-pink to purple globe-shaped flower heads; white cottony undersides on leaves; large rosette in first year; grows 2–6 ft
HABITAT	Disturbed areas, roadsides, overgrazed pastures, creek edges; prefers clay and loam soils — common throughout Hamilton County
TOXICITY NON-TOXIC	Non-toxic. Competes aggressively with desirable grasses; reduces carrying capacity. Not a livestock hazard.
 WILDLIFE BENEFITS	One of the best native pollinator plants — excellent nectar source for Monarchs, painted ladies, swallowtails, and native bees. American Goldfinch heavily depends on thistle seeds and cottony fibers for nesting. Painted Lady butterfly larvae feed on foliage. Consider leaving isolated plants along fence lines.
 LOOKALIKE WARNING	Multiple thistle species in Central TX — all controlled similarly. Musk thistle (<i>Carduus nutans</i>) is an invasive exotic with nodding flower heads — more aggressive and higher priority to control.
RECOMMENDATION	CONTROL in pastures. Grazon Next HL or 2,4-D at rosette stage (fall through early spring). Consider spot-leaving isolated plants along fence lines for pollinators and goldfinches.

PLANT 8 Horseweed / Marestalk Erigeron canadensis X CONTROL	
REFERENCE PHOTO (REQUIRES INTERNET)	BOTANICAL ILLUSTRATION
	
ID FEATURES	Tall single unbranched stem to 6 ft; dense brush of tiny white daisy-like flowers at top; hairy lance-shaped alternate leaves; strong distinctive odor; appears in dense masses
HABITAT	Disturbed soils, overgrazed areas, field edges, bare ground — explodes after tillage or drought kill
TOXICITY NON-TOXIC	Non-toxic. Heavy competitor that shades out grass seedlings and indicates soil disturbance.
WILDLIFE BENEFITS	Minimal wildlife value. Small seeds eaten by sparrows and finches in modest quantities. Dense stands provide temporary cover for quail and small mammals. Abundance mostly signals a problem rather than meaningful habitat.
LOOKALIKE WARNING	Easily confused with annual fleabane (Erigeron annuus) — both controlled the same way. Horseweed is taller and more robust with a single main stem.
RECOMMENDATION	CONTROL at rosette stage. 2,4-D or Grazon Next HL. Very hard to kill once bolted. Spray in fall/early spring as small rosettes.



Section 2: Spray Program

Recommended Tank Mix			
PRODUCT	RATE / ACRE	TARGET WEEDS	NOTES
Grazon Next HL	1.5 pts (24 oz)	Bitterweed, thistle, broomweed, loco, broadleaves	7-day cattle grazing restriction
2,4-D Amine (4 lb/gal)	1 pt (16 oz)	Boosts broadleaf knockdown	Cost-effective additive
Non-ionic Surfactant	1 qt / 100 gal	Improves herbicide uptake	Always include

 Do **NOT** use on pastures grazed by horses or where hay may be fed to horses. Grazon Next HL persists in manure and can harm horses.

Mix Instructions — 25-Gallon ATV Tank (~10 acres)	
1	Fill tank ½ full with clean water
2	Add 46 oz Grazon Next HL
3	Add 26 oz 2,4-D Amine
4	Add 6 oz non-ionic surfactant
5	Top off with water and agitate
6	Calibrate sprayer to deliver 15–20 gallons per acre
Spray when temps are 60–85°F, no rain forecast for 24 hours, winds under 10 mph.	

Application Windows	
Late Feb – Early April	Bitterweed, groundsel, locoweed, horseweed — rosette stage before bolt
April – May	Thistles, broomweed, loco while actively growing
Sept – Oct	Fall flush of annuals, horseweed, broomweed, hemlock in draws

Product Quantities for 100 Acres

Grazon Next HL

1.2 gallons

~\$80–100

2,4-D Amine (4 lb)

0.8 gallons

~\$20–25

NIS Surfactant

1 quart

~\$10

Buy Grazon Next HL in the 2.5-gal jug for best value. Available at Hamilton Farm Bureau or local ag supply.

Long-Term Strategy

-  Mechanical removal of cedar first — opens canopy and allows grass recovery
-  Herbicide follow-up on mesquite, bitterweed, and broadleaves
-  Rest treated pastures 60–90 days after spraying
-  Overseed thin areas with sideoats grama or Klein grass — both thrive in Hamilton County
-  Follow-up spot spray in year 2–3 for escapes

Texas A&M AgriLife Extension

Hamilton County Office — Free range consultations

(254) 386-3168

Ask about NRCS cost-share programs for brush management