Noxious and Rangeland Weed Management: Getting the Most Out of Spraying

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Thanks to Pend Oreille County.

Successful Herbicide Weed Control

- Why does the herbicide work better one year and not the next?
- What changes from year to year?
- Is your equipment in good working order?
- Just keeping on doing what you always have done…
- And get what you always got!

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The Variables

- Weather
- Growing conditions
- Temperatures
- Wind
- Water volume per acre applied
- Equipment wear and calibration
- You, you, you

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Start with the End in Mind

- Visualize what you want to accomplish with every spray job – set expectations
- Review records and see what has changed
- Are the growing conditions and weeds conducive to weed control?
- Recalibrate every year and even do a check up during the spray season
- Calibrate every applicator that applies products

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Rates, Carrier & Equipment

- Select herbicide product that:
  - controls the majority of target weeds
  - use the correct rates (don't scrimp)
- Water carrier per acre
  - use enough to get the product to the desired site of activity (if herbicide is soil active, it must penetrate the vegetative canopy to get benefit)
  - Use Syltac or R-11
- Tune-up sprayers and do timely repairs

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Adjuvants/Surfactants

- Always use Syltac or R-11
- Use them when hot & dry
  - Increases herbicide penetration of leaf surface
- Levels the application conditions
- Use is critical as weather gets extreme
  - Low humidity
  - High temperatures
  - Poor water quality
  - Low volume applications
  - Dusty/dirty plants
  - Stressed or mature plants

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Use the best herbicide

- **Tordon 22K** – use on:
  - uplands/rangelands
  - keep out from under non-target trees
  - apply above high water mark & groundwater advisory
- **Milestone/ForeFront** – use under deciduous trees, up to live water's edge, ok over shallow groundwater
- **Chaparral** – controls broadest spectrum of weeds, Don't leave any survivors. Fits same environmental conditions as ForeFront

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Objective of Noxious Weed Control

- Invasive & Noxious Weed Control
  - Plant communities comprised of a mixture of native & introduced plants and weed species
  - Requires selective, weed control
- Desired Herbicide Attributes
  - Seasonal or residual soil activity to control weeds/seedlings that emerge after application
  - Translocates (moves) to the herbicidal sites of action for long-term control (multiple years)

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GROW MORE GRASS WITH THE RIGHT PRODUCT FROM THE RANGE & PASTURE SPECIALISTS.

Product	Chaparral®	ForeFront® HL	Grazon® P+D	PasturAll® HL	PastureGard® HL	Remedy® Ultra	Spike® 20P	Surmount®	Tordon® 22K	Tordon® RTU
Features	• The broadest-spectrum Range & Pasture herbicide from Dow AgroSciences • May be used to control thistles, wild carrot, goldenrod, common mullein, horsenettle, houndstongue, curlycup gumweed, locust, blackberry, buckbrush and rose — including multiflora rose • Use with caution on fescue • No grazing or haying restrictions[1]	• The most advanced and convenient broad-spectrum broadleaf weed solution, resulting in more grass • Superior control of more than 60 broadleaf weeds, including biennial and perennial thistles, dock, ironweed, vervain, ragweeds, horsenettle and absinth wormwood • No livestock grazing restrictions[1] • Season-long performance NEW (High-load Formulation)	• Proven broad-spectrum, full-season broadleaf weed control • Controls many annual and perennial weeds (see product label for restrictions) • No grazing restrictions, except for lactating dairy animals • Foliar- and soil-active	• Economical annual weed control • Controls common burdock, cocklebur, horseweed (marestail), field pennycress, lambsquarters, lupines, velvetleaf and sunflower • Broader-spectrum control than 2,4-D • Use as a stand-alone treatment or tank-mix partner for a wide range of prescription treatments NEW (High-load Formulation)	• Selective control of woody plants and brush • Thorough translocation kills hard-to-control brush, including blackberry, rose and briars • Proven standard for *Sericea lespedeza* control • Can be used around roots of desirable trees (avoid drift to tree foliage) NEW (High-load Formulation)	• Flexible, long-lasting brush control of more than 35 brush species • Excellent choice for individual plant treatments — either foliar or basal bark • Works well in tank mixes for control of brush and associated weed species • Works on the entire plant — roots and top growth	• Premium, long-term brush control of the toughest rangeland brush species • Controls big sage • Soil-activated product — enters plants only through the roots • Ideal for sagebrush thinning and brush sculpting programs	• Provides excellent control of both encroaching brush and residual control for later-emerging weeds • Thorough translocation kills hard-to-control brush like pricklypear, blackberry and locust • Foliar- and soil-active	• The best option for leafy spurge control, and as an individual plant treatment for cedar • Proven standard for pricklypear control • Season-long residual control, and can be applied in the fall • No grazing restrictions, except for lactating dairy animals	• Cut it down, keep it down — prevents cut stumps of labeled species from resprouting • Convenient ready-to-use, no-freeze formulation for year-round application • Broad-spectrum control, including most hardwood species

Primary Use	Product	Special Considerations				Application Techniques				
		Soil Residual Activity, Season-long Weed Control	Federally Restricted Use Pesticide	Can Be Used Under Trees	Contains 2,4-D	Broadcast	High-volume, Spot Foliar	Basal Bark	Cut-stump	Soil-applied Spot Treatments
Weed Control	ForeFront® HL herbicide	Yes	–	–	Yes	Yes	Yes	–	–	–
	Grazon® P+D herbicide	Yes	Yes	–	Yes	Yes	Yes	–	–	–
	PasturAll™ HL herbicide	–	–	Yes	Yes	Yes	Yes	–	–	–
Mixed Weed and Brush Control	Chaparral™ herbicide	Yes	–	–	–	Yes	Yes	–	–	–
	PastureGard® HL herbicide	–	–	Yes	–	Yes	Yes	–	–	–
	Surmount® herbicide	Yes	Yes	–	–	Yes	Yes	Yes	Yes	–
	Tordon® 22K herbicide	Yes	Yes	–	–	Yes	Yes	–	–	Yes
Brush Control	Remedy® Ultra herbicide	–	–	Yes	–	Yes	Yes	Yes	Yes	–
	Spike® 20P herbicide	Yes	–	–	–	Yes	–	–	–	Yes
	Tordon RTU herbicide	–	–	–	–	–	–	–	Yes	–

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PastureGard HL

- PastureGard® HL has received CAUTION labeling in place of the current PastureGard DANGER label.
- Fluroxypyr and Triclopyr
- Low VOC content
- Controls blackberry, briars and rose species
- Excellent bedstraw, broomweed, cinquefoil, dogbane, Dogfennel, horsetail, kochia, prickly lettuce, marestail, mustards, puncturevine and russian thisle management
- Can be used around roots of desirable trees (avoid drift to tree foliage)
- Dynamite tank-mix partner w/ ForeFront HL & Chaparral for broader-spectrum and residual weed and mix brush control

NEW
High-load Formulation

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Milestone, ForeFront HL Chaparral, OpenSight Features

- The broadest weed control spectrum available today!
- General Use Products
- Very low to non-volatile
- No grazing restrictions for all classes of livestock, including beef and lactating dairy cattle.
- Haying restriction - not to be sold and moved off farm or ranch where grown (grass hay only)
- Labeled for use in riparian areas, non-irrigation ditch banks, seasonally dry wetlands and can be applied up to the waters edge of areas such as: creeks, ponds, lakes, etc.

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States for Off-Farm Use of Hay & On-Farm Use of Silage, Haylage, Baylage and Green Chop

Supplemental Label

No Supplemental Label

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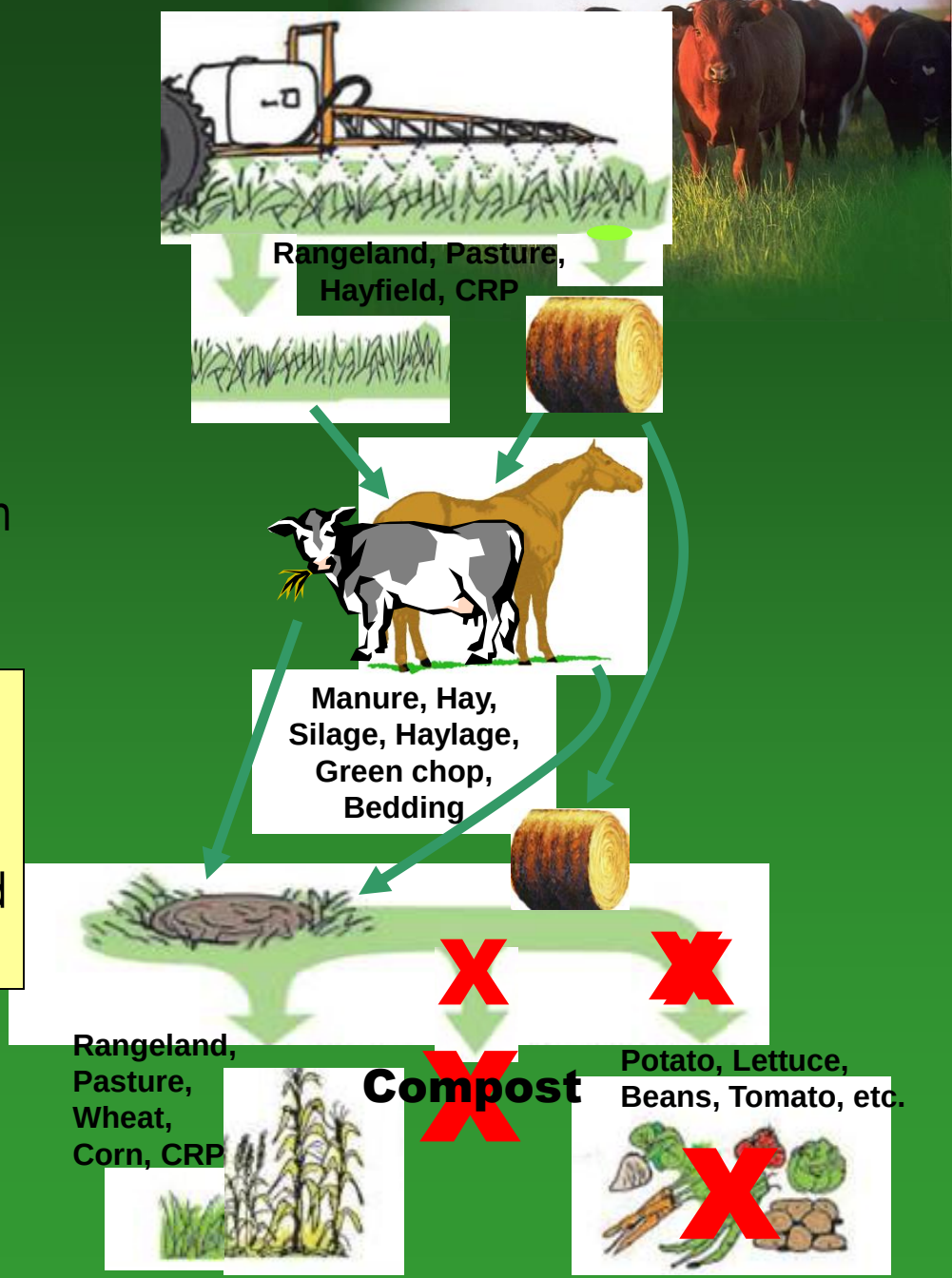
Supplemental Label Pictogram

IMPORTANT USE PRECAUTIONS AND RESTRICTIONS TO PREVENT INJURY TO DESIRABLE PLANTS

- It is mandatory to follow the "***Use Precautions and Restrictions***" section of this product label.
- Manure and urine from animals consuming treated grass or forage may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- The Applicator must provide the land manager with a copy of the Dow AgroSciences' Stewardship instructions regarding uses of forage from areas treated with aminopyralid.
- A printable version of the stewardship instructions can be found at www.aminopyralidstewardshipinstructions.com

Forage and Manure Management



Milestone Herbicide Label Update

- AI : Aminopyralid
- Label Update
- Control or Suppression of Medusahead Rye and Other Winter Annuals
  - Rates and Timing
  - 7 to 14 oz/A*(spot treatment) prior to germination
  - Late summer prior to rains
  - Coverage is key
  - Thatch layer needs to be disturbed for herbicide/seed contact for best results

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ForeFront HL®

- ForeFront HL – new formulation in 2012
- Product handling and storage characteristics
  are the same as the old formulations
- Same efficacy with less material per acre

NEW
High-load Formulation

	ForeFront	New ForeFront HL
Use Rate	2.6 pints/acre	2.0 pints/acre
Acres treated	3 acres/gallon	4 acres/gallon

Dow AgroSciences
ForeFront® HL
Specialty Herbicide
®Trademark of Dow AgroSciences LLC

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ForeFront HL

- General use Herbicide
- Aminopyralid + 2,4-D amine
- 2 pint rate per acre delivers equivalent amount of aminopyralid as:
  - 7 oz. Milestone
  - 3.3 oz Chaparral
- Excellent control of: spotted knapweed, Russian knapweed, oxeye daisy, cinquefoil, St. John's wort, cocklebur, wild licorice, Canada thistle, all biennial thistles and many more weeds.

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Chaparral™

- Aminopyralid plus metsulfuron methyl
  - Both actives on one extruded granule
  - Dry formulation
- Product complements spectrum of the two actives
- The maximum rate of Chaparral™ is 3.3 oz/ac
  - Equivalent to:
  - 7 fl oz/ac Milestone plus
  - 0.52 oz of metsulfuron methyl

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A Dry Formulation

Chaparral TM

61.95% WG

52.5% amino+9.45% metsulfuron

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Chaparral™

Milestone + metsulfuron methyl

Equivalent amount of actives

Chaparral Rate oz product/a	Milestone (aminopyralid) fl oz/a	60% metsulfuron methyl oz product/a
1	2.1	0.17
1.5	3.1	0.24
2.0	4.2	0.31
2.5	5.3	0.41
3	6.3	0.48
3.3	7	0.52

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Chaparral™ Herbicide

- **Key General Weeds Controlled:**
  - Ragweeds, goldenrods, spiny amaranth, dandelion, wild carrot, broom snakeweed, biennial thistles
- **Key Noxious Weed Species:**
  - Canada thistle, musk thistle, knapweeds, yellow starthistle, common tansy, poison hemlock, hoary cress (whitetop), houndstongue, common mullein, others
- **Key Brush Species:**
  - buckbrush, locust (black and honey), blackberry, and rose spp.
- **Application Rates:**
  - Broadcast general weed control – 2.0 to 2.5 ounces per acre
  - Noxious and invasive weeds – 2.5 to 3.3 ounces per acre
  - Broadcast brush control – 3.3 ounces per acre (add 1-2 qts 2,4-D ester)

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Chaparral™ Herbicide

- Use Sites: Rangeland, permanent grass pastures, Conservation Reserve Program (CRP) acres, non-cropland areas, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites.

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Chaparral or OpenSight Label

Spray additives/adjuvants

- Applications of Chaparral must include a nonionic surfactant (unless otherwise stated on label)
- Use Syltac or R-11
- Add 1 quart per 100 gallons spray solution (2 quarts under arid conditions) .

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Weed Species				Chaparral rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
actinomeris, wingstem	*Verbesina alternifolia*	perennial	Asteraceae	**3**
amaranth, spiny	*Amaranthus spinosus*	summer annual	Amaranthaceae	**1.5-2.0**
arrowgrass, seaside‡	*Trifglochin maritima*	perennial	Juncaginaceae	**3.0-3.3**
aster	*Aster spp.*	perennial	Asteraceae	**1.5-2.0**
babysbreath	*Gypsophila paniculata*	perennial	Caryophyllaceae	**2.5-3.0**
bedstraw	*Galium spp.*	perennial	Rubiaceae	**2.0-2.5**
bittercress	*Cardimane spp*	perennial	Brassicaceae	**2.0-2.5**
blackeyed-Susan	*Rudbeckia hirta*	annual	Asteraceae	**1.5-2.0**
brackenfern	*Pteridiums spp.*	perennial	Dennstaedtiaceae	**2.5-3.3**
broomweed, annual	*Amphiachyris dracunculoides*	annual	Asteraceae	**1.0-1.5**
bur buttercup (testiculate)	*Ranunculus testiculatus*	annual	Ranunculaceae	**1.0-1.5**
burclover	*Medicago spp*	annual	Fabaceae	**1.5-2.0**
burdock, Common	*Arctium minus*	biennial	Asteraceae	**2.0-2.5**
buttercup, hairy	*Ranunculus sardous*	perennial	Ranunculaceae	**1.0-1.5**
buttercup, tall	*Ranunculus acris*	perennial	Ranunculaceae	**2.0-2.5**
camelthorn	*Alhagi pseudalhagi*	perennial	Fabaceae	**2.0-3.0**
camphorweed	*Heterotheca subaxillaris*	summer annual	Asteraceae	**2.0-3.0**
campion, bladder‡	*Silene vulgaris*	perennial	Caryophyllaceae	**2.0-2.5**
caraway, wild	*Carum carvi*	biennial	Apiaceae	**2.5-3.0**
carrot, wild	*Daucus carota*	biennial	Apiaceae	**2.0-2.5**
catchfly, conical	*Silene conoidea*	annual	Caryophyllaceae	**1.0-1.5**
chamomile	*Matricaria spp*	annual	Asteraceae	**2.5-3.0**
chickweed, common	*Stellaria media*	Winter annual	Caryophyllaceae	**3**
chicory	*Cichorium intybus*	perennial	Asteraceae	**1.5-2.0**
cinquefoil*	*Potentilla spp*	perennial	Rosaceae	**2.0-2.5**
clover, sweet	*Melilotus officinalis*	biennial	Fabaceae	**2.5-3.0**
clover, white	*Trifolium repens*	perennial	Fabaceae	**1.5-2.0**
cockle, corn	*Agrostemma githago*	annual	Caryophyllaceae	**2.0-3.0**
cocklebur	*Xanthium strumarium*	annual	Asteraceae	**1.5-2.0**
coreopsis, plains	*Coreopsis tinctoria*	annual	Asteraceae	**2.0-3.0**
cowcockle	*Vaccaria pyramidata*	annual	Caryophyllaceae	**1.5-2.0**
crazyweed, silky	*Oxytropis lambertii*	perennial	Fabaceae	**2.0-2.5**
croton, woolly	*Croton capitatus*	annual	Euphorbiaceae	**1.5-2.0**
crownvetch	*Securigera varia*	perennial	Fabaceae	**1.5-2.0**

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Weed Species				Chaparral rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
crupina, common	*Crupina vulgaris*	perennial	Asteraceae	**3.0-3.3**
cudweed, purple	*Gnaphalium purpureum*	annual	Asteraceae	**2.0-2.5**
daisy, oxeye*	*Leucanthemum vulgare*	perennial	Asteraceae	**2.5-3.3**
dandelion, common	*Taraxacum officinale*	perennial	Asteraceae	**1.5-2.0**
dock	*Rumex spp*	perennial	Polygonaceae	**2.0-2.5**
dyer's woad ‡	*Istis tinctoria*	perennial	Brassicaceae	**3.3**
evening primrose, cutleaf	*Oenothera laciniata*	annual	Asteraceae	**1.5-2.0**
false dandelion, Carolina	*Tragopogon dubius*	biennial	Asteraceae	**1.5-2.0**
falseflax, Smallseed	*Camelina microcarpa*	annual/biennial	Brassicaceae	**1.5-2.0**
fiddleneck, common	*Amsinckia intermedia*	annual	Boraginaceae	**1.5-2.0**
filaree, redstem	*Erodium cicutarium*	annual/biennial	Geraniaceae	**3.0-3.3**
fireweed	*Epilobium angustifolium*	perennial	Onagracee	**2.5-3.0**
fleabane, annual	*Erigeron annus*	annual	Asteraceae	**1.5-2.0**
garlic. wild	*Allium vineale*	perennial	Liliaceae	**1.5-2.0**
geranium, Carolina	*Geranium carolinianum*	Winter annual	Geraniaceae	**1.5-2.0**
goldenrod spp	*Solidago canadensis*	perennial	Asteraceae	**2.0-2.5**
gumweed, curlycup	*Grindelia squarrosa*	biennial	Asteraceae	**2.0-2.5**
halogeton	*Halogeton glomeratus*	annual	Chenopodiaceae	**3.0-3.3**
hawkweed, orange*	*Hieracium aurantiacum*	perennial	Asteraceae	**2.5-3.3**
hawkweed, yellow*	*Hieracium pratense*	perennial	Asteraceae	**2.5-3.3**
hemlock, poison‡	*Conium maculatum*	perennial	Apiaceae	**3.0-3.3**
henbane, black	*Hyoscyamus niger*	annual/biennial	Solanaceae	**2.5-3.0**
henbit	*Lamium amplexicaule*	annual/biennial	Lamiaceae	**2.0-2.5**
horsemint (beebalm)	*Monarda spp*	annual	Lamiaceae	**1.5-2.0**
horsenettle, Carolina	*Solanum carolinense*	perennial	Solanaceae	**2.0-2.5**
horseweed (marestail)	*Conyza canadensis*	annual	Asteraceae	**1.5-2.0**
houndstongue*	*Cynoglossum officinale*	biennial	Boraginaceae	**2.5-3.3**
ironweed, tall	*Vernonia gigantea*	perennial	Asteraceae	**2.0-3.0**
ironweed, western	*Vernonia baldwinii*	perennial	Asteraceae	**2.0-3.0**
knapweed	*Centaurea sp.*	biennial	Asteraceae	**2.5-3.3**
knapweed, brown	*Centaurea jacea*	perennial	Asteraceae	**2.5-3.3**
knapweed, diffuse*	*Centaurea diffusa*	biennial	Asteraceae	**2.5-3.3**
knapweed, Russian*	*Acroptilon repens*	perennial	Asteraceae	**2.5-3.3**
knapweed, spotted*	*Centaurea stoebe*	biennial	Asteraceae	**2.5-3.3**

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Weed Species				Chaparral rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
knotweed, prostrate	*Polygonum aviculare*	annual	Polygonaceae	**3**
kochia*	*Kochia scoparia*	annual	Chenopodiaceae	**1.5-2.0**
lady's thumb	*Polygonum persicaria*	annual	Polygonaceae	**1.5-2.0**
lambsquarters, common	*Chenopodium album*	annual	Chenopodiaceae	**2.0-2.5**
lespedeza, annual	*Lespedeza striata*	annual	Fabaceae	**2.0-2.5**
lespedeza, sericea*	*Lespedeza cuneata*	perennial	Fabaceae	**2.5-3.0**
lettuce, Miner's	*Montia perfoliata*	annual	Portulacaceae	**1.5-2.0**
lettuce, prickly*	*Lactuca serriola*	annual	Asteraceae	**1.5-2.0**
locoweed	*Astragalus spp.*	perennial	Fabaceae	**2.0-2.5**
loosestrife, purple	*Lythrum salicaria*	perennial	Lythraceae	**3.0-3.3**
marshelder, annual‡	*Iva annua*	annual	Asteraceae	**2.0-2.5**
mayweed, scentless	*Tripleurospermum perforata*	annual	Asteraceae	**1.5-2.0**
mayweed, stinking	*Anthemis cotula*	annual	Asteraceae	**3.0-3.3**
medic, black	*Medicago lupulina*	perennial	Fabaceae	**2.0-2.5**
mexicantea	*Dysphania ambrosioides*	perennial	Chenopodiaceae	**2.0-2.5**
mullein*	*Verbascum spp.*	biennial	Scrophulariaceae	**2.0-3.3**
mustard, blue*	*Chorispora tenella*	annual	Brassicaceae	**1.5-2.0**
mustard, tumble/Jim Hill	*Sisymbrium altissimum*	Winter annual	Brassicaceae	**1.5-2.0**
mustard, wild	*Brassica kaber*	annual	Brassicaceae	**1.5-2.0**
oxtongue, bristly	*Picris echioides*	biennial	Asteraceae	**2.5-3.0**
parsnip, Wild	*Pastinaca sativa*	biennial	Apiaceae	**2.0-3.0**
partridgepea	*Chamaecrista fasciculata*	annual	Fabaceae	**2.5-3.0**
pepperweed, perennial‡*	*Lepidium latifolium*	perennial	Brassicaceae	**3.3**
pigweeds	*Amaranthus spp*	annual	Amaranthaceae	**1.5-2.0**
plantain, broadleaf	*Plantago major*	perennial	Plantaginaceae	**2.0-2.5**
plantain, buckhorn	*Plantago lanceolata*	perennial	Plantaginaceae	**2.0-2.5**
purslane, common	*Portulaca oleracea*	annual	Portulacaceae	**1.5-2.0**
ragweed, common	*Ambrosia artemisiifolia*	annual	Asteraceae	**2.0-2.5**
ragweed, western	*Ambrosia psilostachya*	perennial	Asteraceae	**2.0-2.5**
ragwort, tansy	*Senecio jacobaea*	perennial	Asteraceae	**2.5-3.0**
rush skeletonweed	*Chondrilla juncea*	perennial	Asteraceae	**2.5-3.0**
salsify, Western‡	*Tragopogon dubius*	biennial	Asteraceae	**3.0-3.3**

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Weed Species				Chaparral rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
scouringrush‡	*Equisetum hyemale*	grass	Equisetaceae	**3.3**
shephardspurse	*Capsella bursa-pastoris*	Winter annual	Brassicaceae	**1.5-2.0**
sicklepod	*Senna obtusifolia*	annual	Fabaceae	**2.5-3.0**
Sida, arrowleaf	*Sida rhombifolia*	annual	Malvaceae	**2-2.5**
smartweed, Pennsylvania	*Polygonum pensylvanicum*	annual	Polygonaceae	**1.5-2.0**
snakeweed, broom*	*Gutierrezia sarothrae*	perennial	Asteraceae	**3**
sneezeweed, bitter	*Helenium amarum*	annual	Asteraceae	**1.0-1.5**
snow-on-the-mountain	*Euphorbia marginata*	annual	Euphorbiaceae	**2.0-2.5**
soda apple, tropical*	*Solanum viarum*	perennial	Solanaceae	**2.5-3.0**
sorrel, red	*Rumex acetosella*	perennial	Polygonaceae	**2.0-2.5**
sowthistle, perennial	*Sonchus arvensis*	perennial	Asteraceae	**2.0-2.5**
sowthistle, prickly	*Sonchus asper*	annual	Asteraceae	**1.5-2.0**
spanish needles	*Bidens bipinnata*	annual	Asteraceae	**2.0-2.5**
St. Johnswort, common	*Hypericum perforatum*	perennial	Clusiaceae	**2.5-3.0**
starthirstle, purple*	*Centaurea calcitrapa*	biennial	Asteraceae	**1.5-2.0**
star-thistle, Malta*	*Centaurea melitensis*	annual	Asteraceae	**1.5-2.0**
starthistle, yellow*	*Centaurea solstitialis*	annual	Asteraceae	**1.5-2.0**
sunflower, common	*Helianthus annua*	annual	Asteraceae	**1.5-2.0**
tansy, common	*Tanacetum vulgare*	perennial	Asteraceae	**3.0-3.3**
teasel	*Dipsacus spp.*	biennial	Dipsacaceae	**2.0-3.0**
thistle, Russian*	*Salsola iberica*	annual	Chenopodiaceae	**1.5-2.0**
thistle, artichoke	*Cynara cardunculus*	perennial	Asteracea	**2.0-3.0**
thistle, bull*	*Cirsium vulgare*	biennial	Asteraceae	**1.0-2.5**
thistle, Canada*	*Cirsium arvense*	perennial	Asteraceae	**2.0-3.3**
thistle, Italian	*Carduus pycnocephalus*	annual	Asteraceae	**2.0-3.0**
thistle, musk*	*Carduus nutans*	biennial	Asteraceae	**1.0-2.5**
thistle, plumeless*	*Carduus acanthoides*	biennial	Asteraceae	**1.0-2.5**
thistle, scotch	*Onopordum acanthium*	biennial	Asteraceae	**1.5-2.5**
thistle, woolly distaff	*Carthamus lanatus*	annual	Asteraceae	**1.5-2.0**
vervain‡	*Verbena spp.*	perennial	Asteraceae	**2.0-2.5**
vetch, common*	*Vicia sativa*	annual	Fabaceae	**1.5-2.0**
wallflower, bushy	*Erysimum repandum*	annual	Brassicaceae	**1.5-2.0**
waterpod	*Ellisia nyctelea*	annual	Brassicaceae	**1.5-2.0**
whitetop (hoary cress)*	*Cardaria draba*	perennial	Brassicaceae	**3.3**
woodsorrel, yellow	*Oxalis stricta*	perennial	Oxalidaceae	**3.0-3.3**
wormwood, absinth*	*Artemisia absinthium*	perennial	Asteraceae	**3.0-3.3**
Yankeeweed	*Eupatorium compositifolium*	perennial	Asteraceae	**3.0-3.3**
yarrow, common	*Achillea millefolium*	perennial	Asteraceae	**1.5-2.0**

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Brush Species Controlled with 3.3 oz/A Chaparral Herbicide

Common Name	Scientific Name	Plant Family	Application Details
Blackberry	*Rubus spp*	Rosaceae	Apply when leaves are fully expanded and the foliage is dark green, either before first flower or after fruit drop. Application after fruit drop is preferred until frost. Do not treat blackberries in the same year after mowing, shredding, or burning.
Buckbrush	*Symphoricarpus orbiculus*	Caprifoliaceae	Apply in spring or early summer when new growth is 6-12 inches tall.
Dewberry	*Rubus flagellaris*	Rosaceae	Apply when leaves are fully expanded and the foliage is dark green, either before first flower or after fruit drop. Application after fruit drop is preferred until frost. Do not treat blackberries in the same year after mowing, shredding, or burning.
Honeylocust	*Gleditsia triacanthos*	Fabaceae	Apply in spring when leaves are fully expanded and foliage is mature.
Honeysuckle	*Lonicera japonica*	Caprifoliaceae	Apply in spring when leaves are fully expanded and foliage is mature.
kudzu	*Pueraria montana*	Fabaceae	Apply at or after bloom (July) in the summer until fall when the foliage begins to senesce. Kudzu should be actively growing; avoid treating when drought stressed.
locust, black	*Robinia pseudoacacia*	Fabaceae	Apply in spring when leaves are fully expanded and foliage is mature.
mimosa	*Albizia julibrissin*	Fabaceae	Apply after full leaf emergence in the spring until fall foliage color change.
redbud	*Cercis Canadensis*	Fabaceae	Apply after full leaf emergence in the spring until fall foliage color change.
Rose, Cherokee	*Rosa laevigata*	Rosaceae	Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.
Rose, Multiflora	*Rosa multiflora*	Rosaceae	Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.
Rose, prairie wild	*Rosa arkansana*	Rosaceae	Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.
Snowberry, Western	*Symphoricarpus occidentalis*	Caprifoliaceae	Add 1 lb of 2,4-D ester. Apply in spring when leaves are fully expanded and foliage is mature
wisteria	*Wisteria brachybotris*	Fabaceae	Apply after full leaf emergence in the spring until fall foliage color change.
Yucca‡	*Yucca glauca*	Agavaceae	Add 1 lb of 2,4-D ester to GF-2050 at 3.3 oz product per acre. Make applications from flower stalk elongation through seed pod development. Crop oil concentrate (COC), Modified Seed Oil (MSO) or Modified Seed Oil/Organosilicone (MSO/OS) are the preferred adjuvants. Aerial application is recommended with a minimum of 4 gallons per acre volume for dense yucca populations.

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Chaparral Label – Key Noxious Weed Rates

Weed Species				GF-2050 rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
daisy, oxeye	*Leucanthemum vulgare*	perennial	Asteraceae	**2.5-3.3**
dyer's woad ‡	*Istis tinctoria*	perennial	Brassicaceae	**3.3**
Halogeton	*Halogeton glomeratus*	annual	Chenopodiaceae	**3.0-3.3**
hawkweed, orange	*Hieracium aurantiacum*	perennial	Asteraceae	**2.0-3.0**
hawkweed, yellow	*Hieracium pratense*	perennial	Asteraceae	**2.0-3.0**
hemlock, poison	*Conium maculatum*	perennial	Apiaceae	**3.0-3.3**
Houndstongue*	*Cynoglossum officinale*	biennial	Boraginaceae	**3.0-3.3**
knapweed, diffuse	*Centaurea diffusa*	biennial	Asteraceae	**2.0-3.0**
knapweed, Russian	*Acroptilon repens*	perennial	Asteraceae	**2.5-3.3**
knapweed, spotted	*Centaurea stoebe*	biennial	Asteraceae	**2.0-3.0**
lespedeza, sericea*	*Lespedeza cuneata*	perennial	Fabaceae	**2.5-3.0**
loosestrife, purple	*Lythrum salicaria*	perennial	Lythraceae	**3.0-3.3**
mullein*	*Verbascum spp.*	biennial	Scrophulariaceae	**2.0-3.0**
Parsnip, Wild	*Pastinaca sativa*	biennial	Apiaceae	**2.0-3.0**
Pepperweed, perennial‡*	*Lepidium latifolium*	perennial	Brassicaceae	**3.3**
ragwort, tansy	*Senecio jacobaea*	perennial	Asteraceae	**2.5-3.0**
rush skeletonweed	*Chondrilla juncea*	perennial	Asteraceae	**2.5-3.0**
soda apple, tropical	*Solanum viarum*	perennial	Solanaceae	**2.5-3.0**
St. Johnswort, common	*Hypericum perforatum*	perennial	Clusiaceae	**2.5-3.0**
starthirstle, purple	*Centaurea calcitrapa*	biennial	Asteraceae	**1.5-2.0**
star-thistle, Malta	*Centaurea melitensis*	annual	Asteraceae	**1.5-2.0**
starthistle, yellow*	*Centaurea solstitialis*	annual	Asteraceae	**1.5-2.0**
tansy, common	*Tanacetum vulgare*	perennial	Asteraceae	**3.0-3.3**
thistle, Canada*	*Cirsium arvense*	perennial	Asteraceae	**2.0-3.3**
thistle, musk*	*Carduus nutans*	biennial	Asteraceae	**1.0-2.5**
whitetop (hoary cress)*	*Cardaria draba*	perennial	Brassicaceae	**3.0-3.3**
wormwood, absinth*	*Artemisia absinthium*	perennial	Asteraceae	**3.0-3.3**

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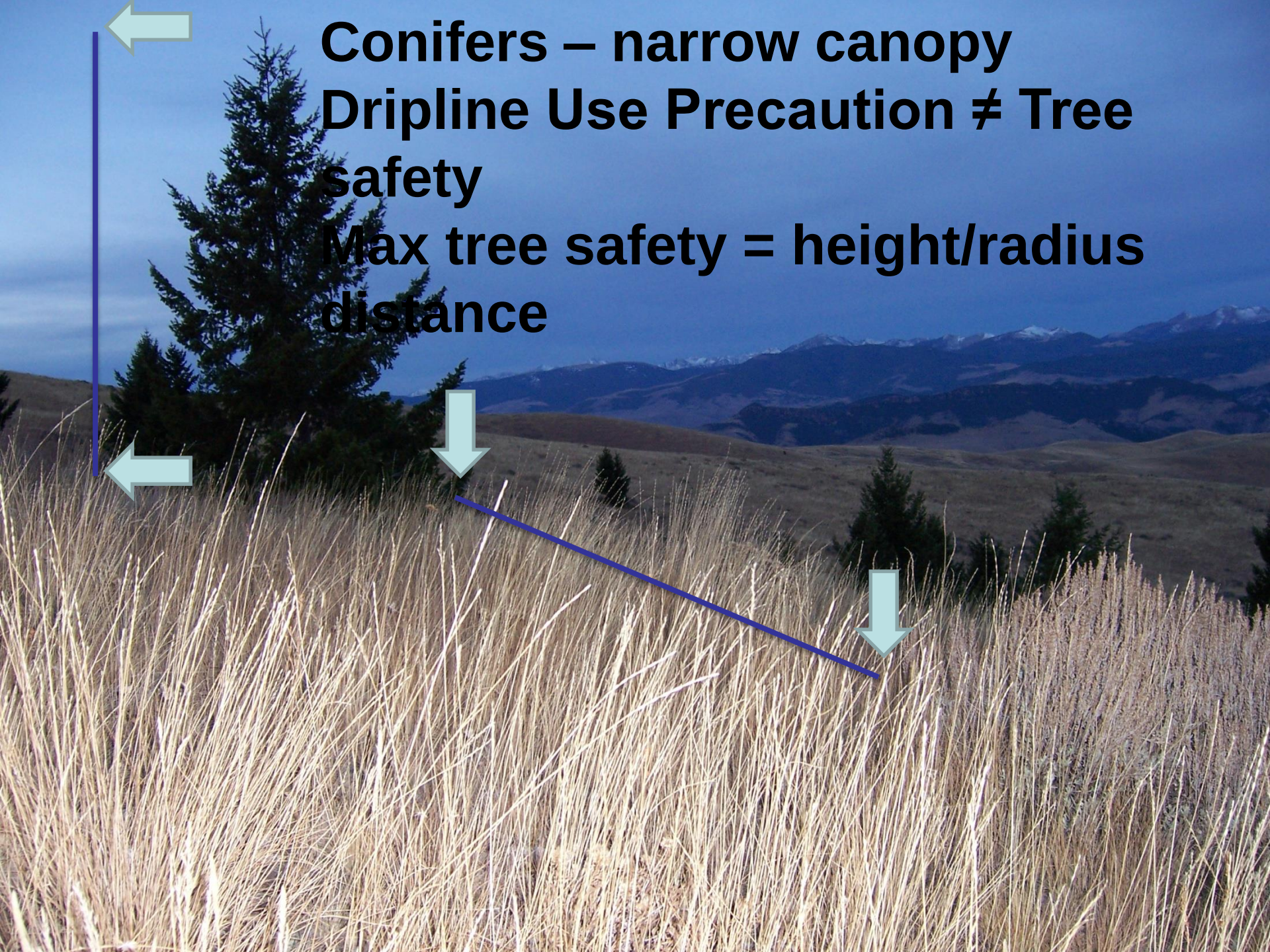
Dripline


Conifers – narrow canopy
Dripline Use Precaution ≠ Tree safety
Max tree safety = height/radius distance

Tordon
Chaparral
Milestone
Transline #1,
2,4-D
Milestone??

Targeted Noxious Weeds

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Noxious Weeds Impact Native Rangelands Affecting Range Condition

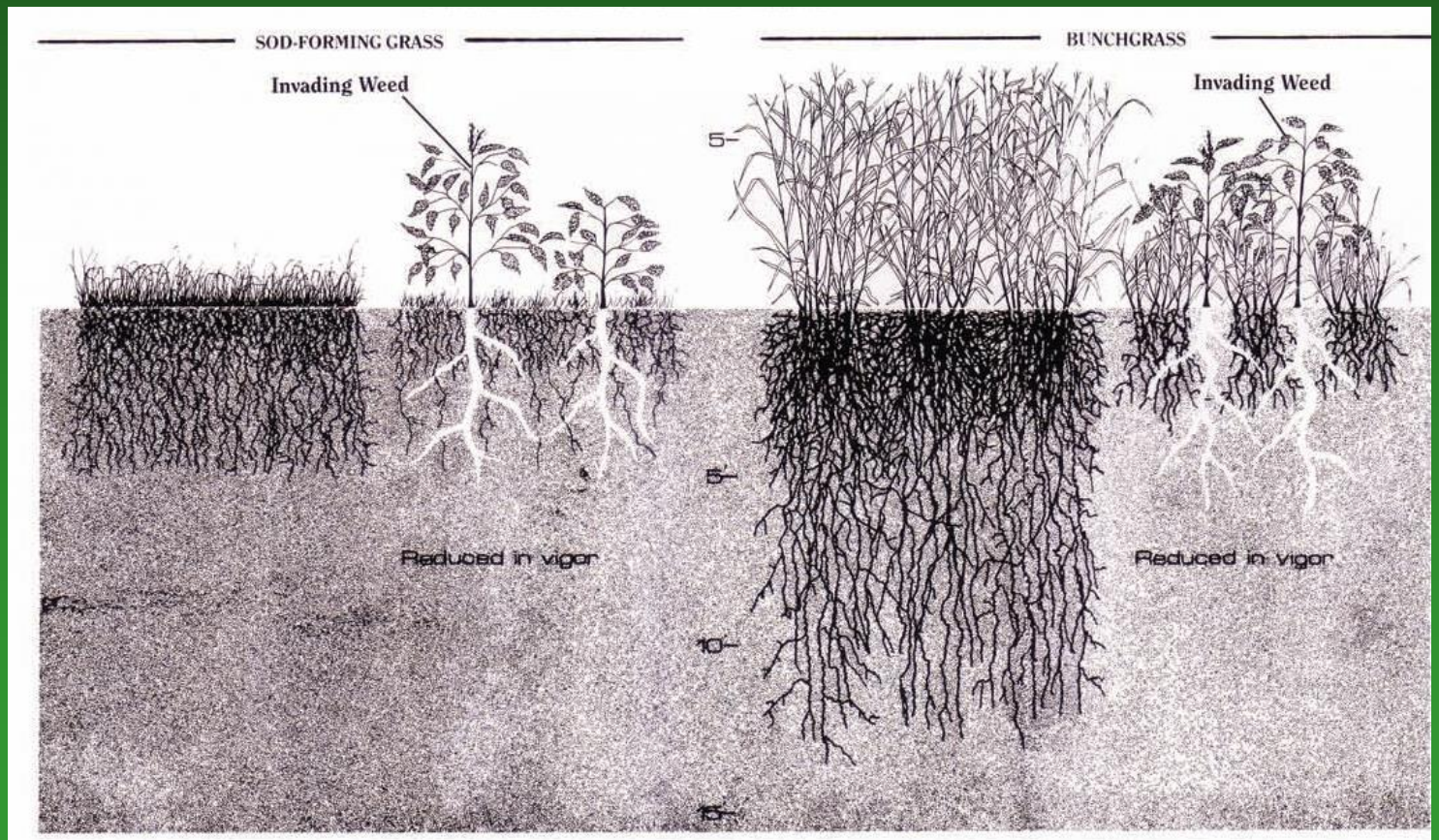

FIG. 9 The effect of overgrazing on root production and weed invasion.

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Whitetop

Chaparral @ 3.3 oz/acre

- May add 0.25-0.5 oz MSM or 2,4-D amine to slow/stop seed formation

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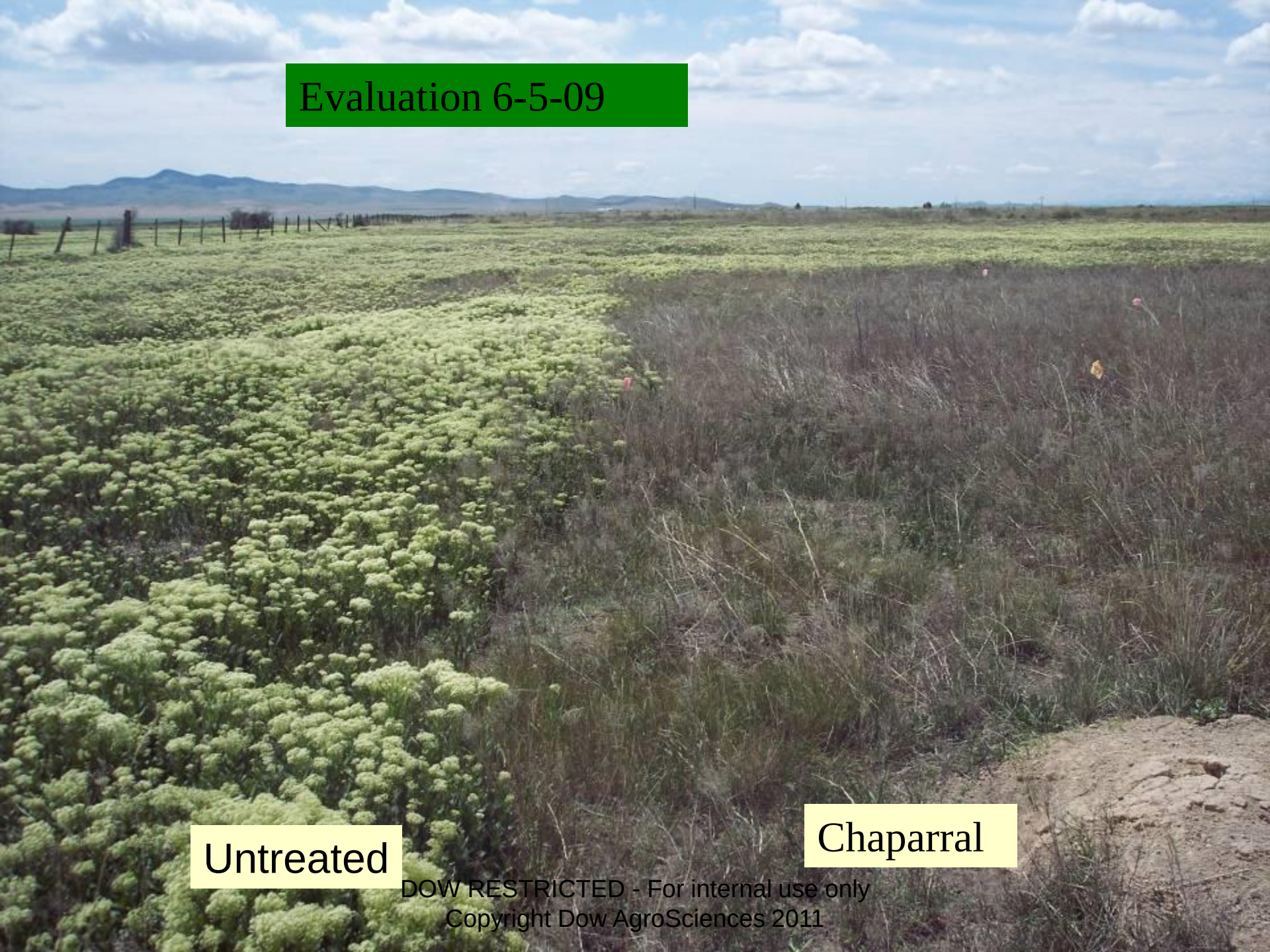

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Houndstongue

Chaparral @ 3.3 oz/acre

- May add 0.25-0.5 oz MSM or 2,4-D amine to slow/stop bur formation

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Canada Thistle

ForeFront HL @ 2 pts/ac
Chaparral @ 3.3 oz/ac
Tordon @ 1-2 qts/ac

Thistle Control

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Leafy Spruge

Tordon @ 1 quart plus Overdrive @ 4 oz/acre

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Spotted Knapweed

ForeFront HL @ 1-2 pts/ac
Chaparral @ 3.3 oz/ac
Tordon @ 1-2 pts/ac

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Sulfur Cinquefoil

ForeFront HL @ 1-2 pts/ac
Chaparral @ 2.5-3.3 oz/ac
Tordon @ 1-2 pts/ac

DOW RESTR

Oxeye Daisy

- ForeFront @ 2 pts/ac
- Chaparral @ 3.3 oz/ac
- Milestone @ 5-7 oz/ac
    - Use 30 + gpa water if in heavy grass cover

Burdock & Wild licorice

ForeFront HL @ 2 pts/acre
Chaparral @ 2.5 – 3 oz/acre (not under trees)
Tordon @ 1-2 pts/acre (not under trees)

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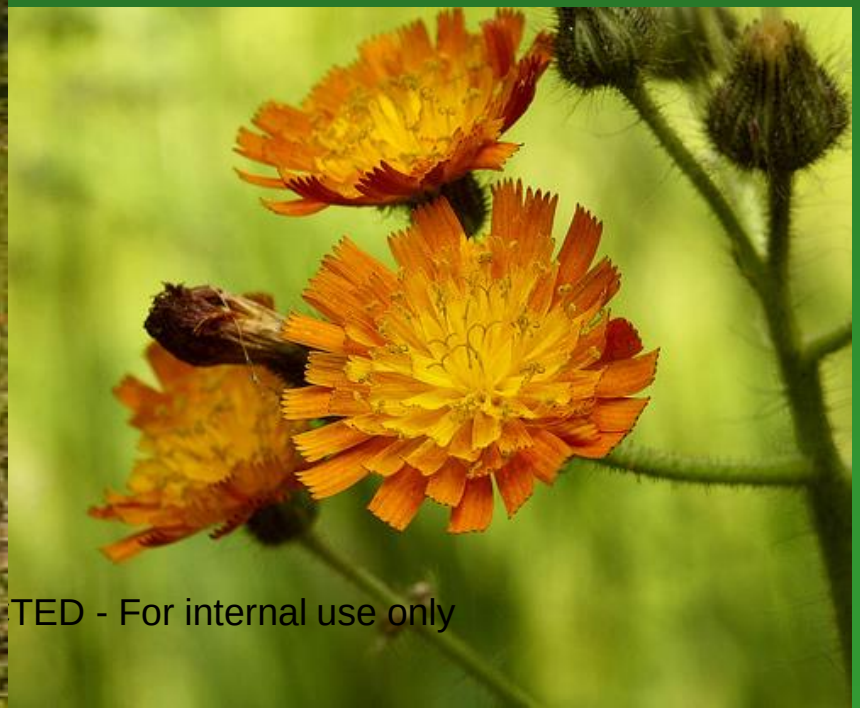
Hawkweeds

Milestone @ 4-7 oz/acre at bolting
ForeFront HL @ 1.5-2 pts/acre at bolting
Chaparral @ 2.5-3.3 oz/acre
Transline @ 1 pt/ac



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Kochia, knotweed, etc.

Vista @ 1 pint/acre plus
Dicamba @ 1 pint/acre

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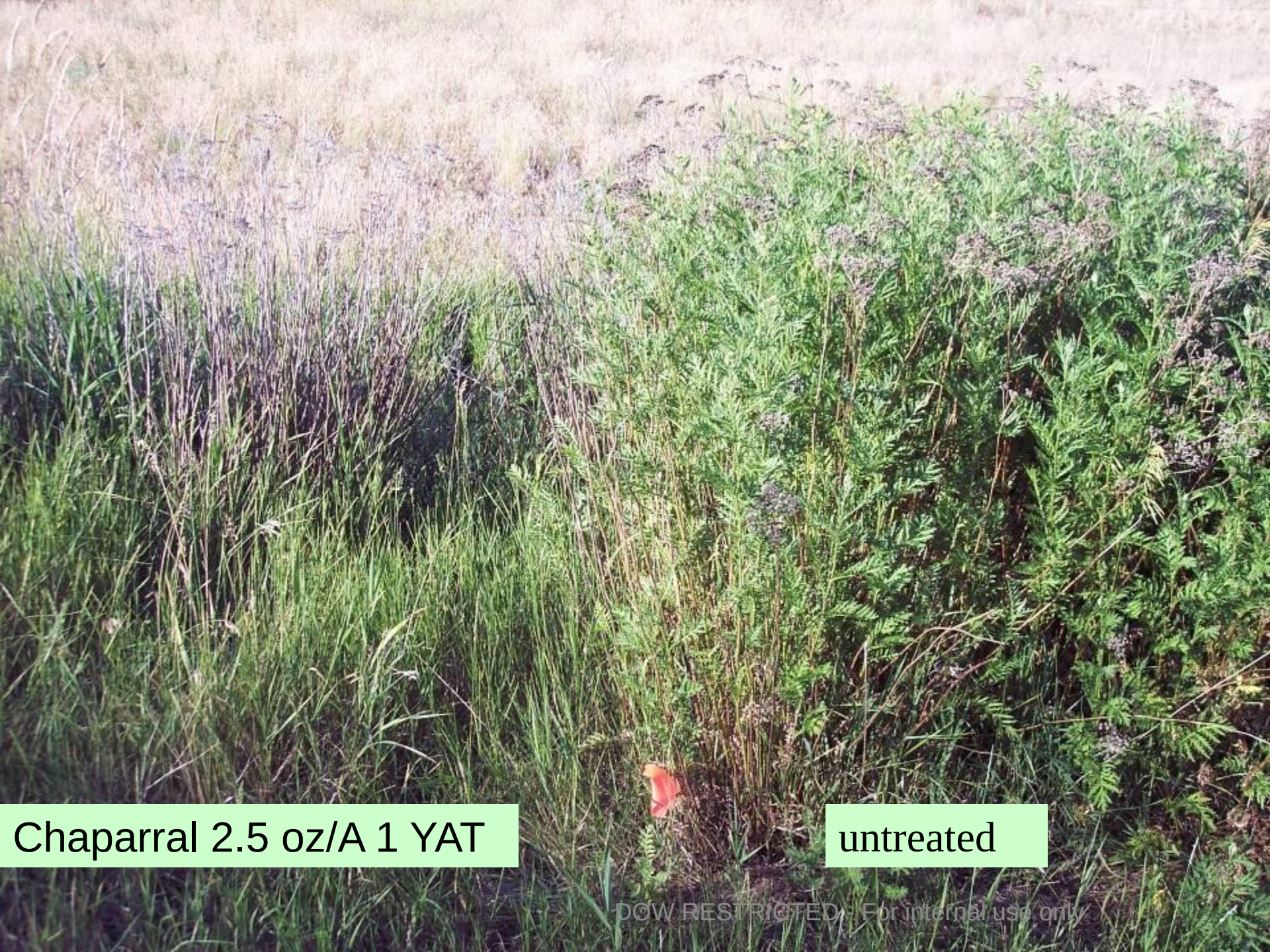

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Do it right!

- Pre-season and pre-application planning pays off
- Do equipment repairs/upgrades now
- Determine the products & surfactant rates and calibrate for each sprayer
- Know the precautions of herbicides you use
- You have a lot riding on you!

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Go Kill Some Weeds!!

Thanks to you for your attention!

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