

March 23, 2013

PROBLEM PASTURE WEED CONTROL

Joel Fields, Wilbur-Ellis Company



AGENDA

- ❖ Assorted problem weeds in grass pasture and hay
- ❖ Syl-Tac Surfactant
- ❖ Herbicides for grassy weed control in grass pastures
- ❖ Alfalfa herbicides

Conium maculatum.



Bruce Barnes



POISON HEMLOCK

APIACEAE

- ❖ Escort- 1 oz/AC
- ❖ 2,4-D- 1-2 qt/AC
- ❖ Chaparral 3.3 oz per acre
- ❖ Surfactant – Syl-Tac 4 oz per acre

Centaurea maculata



(c) Cindy Roche'



(c) Cindy Roche'



photo by Karl Urban

Centaurea diffusa



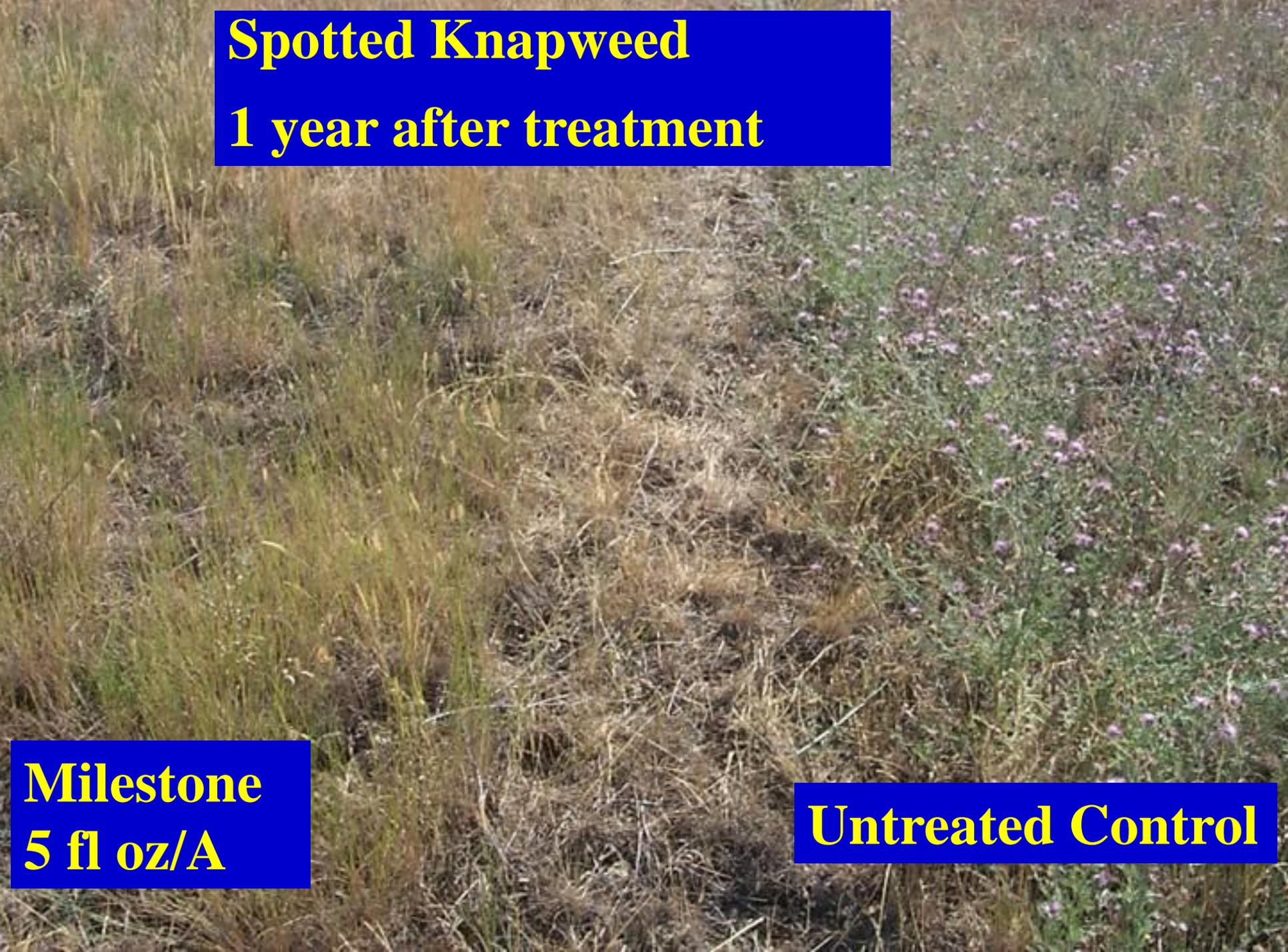
DIFFUSE, MEADOW, AND SPOTTED KNAPWEED ASTERACEAE

- ❖ Tordon 22K- 1 pt/AC
 - Use caution around trees
 - Best long term control where conditions allow
- ❖ Chaparral 2.5 oz per/acre
 - Excellent control; good in “sensitive” areas
- ❖ Transline- 1 pt/AC
- ❖ Milestone – 5-7 oz per acre
- ❖ Apply from rosette to mid-bolt

Spotted Knapweed
1 year after treatment

Milestone
5 fl oz/A

Untreated Control



Tanacetum vulgare



Bruce Barnes



WA State Noxious Weed Control Board

COMMON TANSY

Asteraceae

- ❖ Escort 1 oz
- ❖ Chaparral 3.3 oz per acre
- ❖ Be sure to add Syl-Tac

Add 1-2 qt 2,4-D for broad spectrum control



WSNWCB



Cirsium arvense

photo by Bruce Barnes



WA State Noxious Weed Control Board

CANADA THISTLE

ASTERACEAE

- ❖ Tordon 22K- 1.5-2 pt per acre
 - Apply emergence to bud stage or fall regrowth
- ❖ Chaparral 2.5-3.3 oz per acre
 - Apply emergence to bud stage or fall regrowth
- ❖ Transline- 0.66-1 pt per acre
 - Apply emergence to bud stage or fall regrowth
 - Better results without 2,4-D
- Milestone 5 – 7 oz per acre

Packaging
One quart
2.5 gallon



Chondrilla juncea



WA State Noxious Weed Control Board

RUSH SKELETONWEED

ASTERACEAE

- ❖ Tordon 22K- 1 qt/AC
 - Apply late fall or spring from full emergence to 4” bolt (don’t wait too long)
 - Great results from fall applications
 - Provides good residual
- ❖ Chaparral 2.5 to 3.3 oz per acre
 - Late fall or spring from full emergence to 4”
- ❖ Transline- 1 pt/AC
 - Same timing as above (watch rosette leaves)
- ❖ Milestone – 7 oz per acre fall or spring

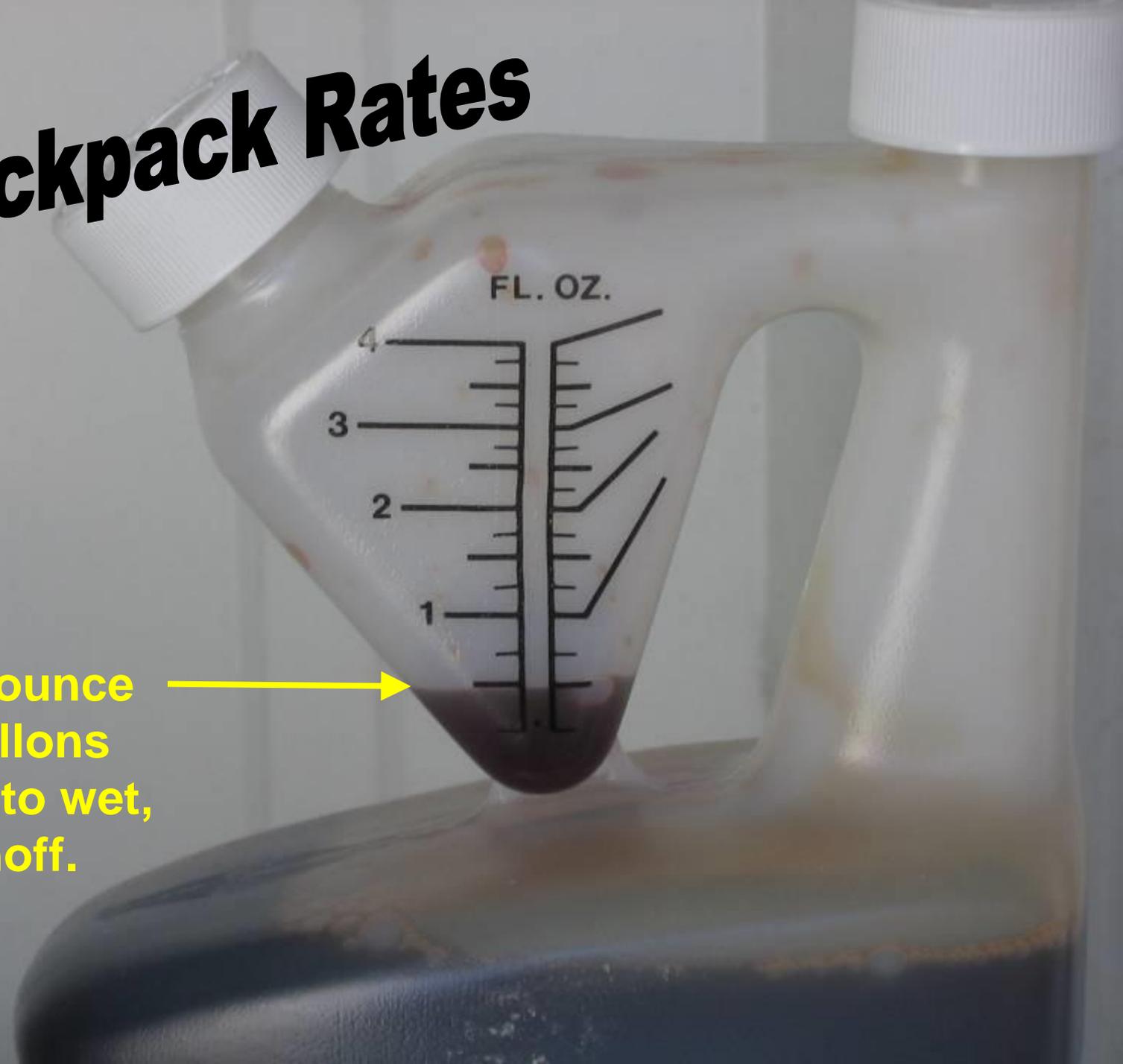
Yellow Hawkweed



MEADOW, ORANGE, and YELLOW HAWKWEED ASTERACEAE

- ❖ Tordon 22K- 1.5 pt per acre
 - Apply full emergence to early bloom
 - Can use 1 pt/AC if 1.5 qt/ acre 2,4-D is added
- ❖ Chaparral 2.5 to 3.3 oz per acre
- ❖ Transline- 0.66-1 pt/acre
 - Addition of ammonium sulfate has helped above 2 qts per 100 Bronc Max

Backpack Rates



Use $\frac{1}{2}$ fluid ounce
in 4 to 5 gallons
water; spray to wet,
not to runoff.

Cynoglossum officinale



(c) Steve Watts



Bruce Barnes



WA State Noxious Weed Control Board

HOUNDSTONGUE

Boraginaceae

- ❖ Escort 1 oz per acre
 - Add Hi-Dep @ 1-2 qts per acre
- ❖ Chaparral 3.3 oz per acre
 - Use Syl-Tac 4 oz per acre

Hypericum perforatum



WA State Noxious Weed Control Board

ST JOHNSWORT

Clusiaceae

- ❖ Escort $\frac{3}{4}$ oz + 1-2 qt 2,4-D + surfactant
- ❖ Milestone – 7 oz per acre
- ❖ Chaparral 3.3 oz per acre
 - Use Syl-Tac

Equisetum arvense



photo by Karl Urban

FIELD HORSETAIL

Equisetaceae

- ❖ Telar DF 2 oz per acre
 - Apply in spring prior to 6 inch bolt
 - Rainfall needed to activate
 - Use Syl-Tac surfactant

Verbascum thapsus



(c) Robert A. Nicholson



Bruce Barnes



WA State Noxious Weed Control Board

COMMON MULLEIN

Scrophulariaceae

- ❖ Escort 1 oz + Syl-tac 1-2 pts per 100
- ❖ Biennial weed, spray 1st years growth (rosette)
- ❖ Add 2,4-D for broad spectrum control
- ❖ Chaparral 3.3 oz per acre
- ❖ Use Syl-Tac surfactant

Linaria dalmatica



Linaria vulgaris



DALMATION, YELLOW TOADFLAX

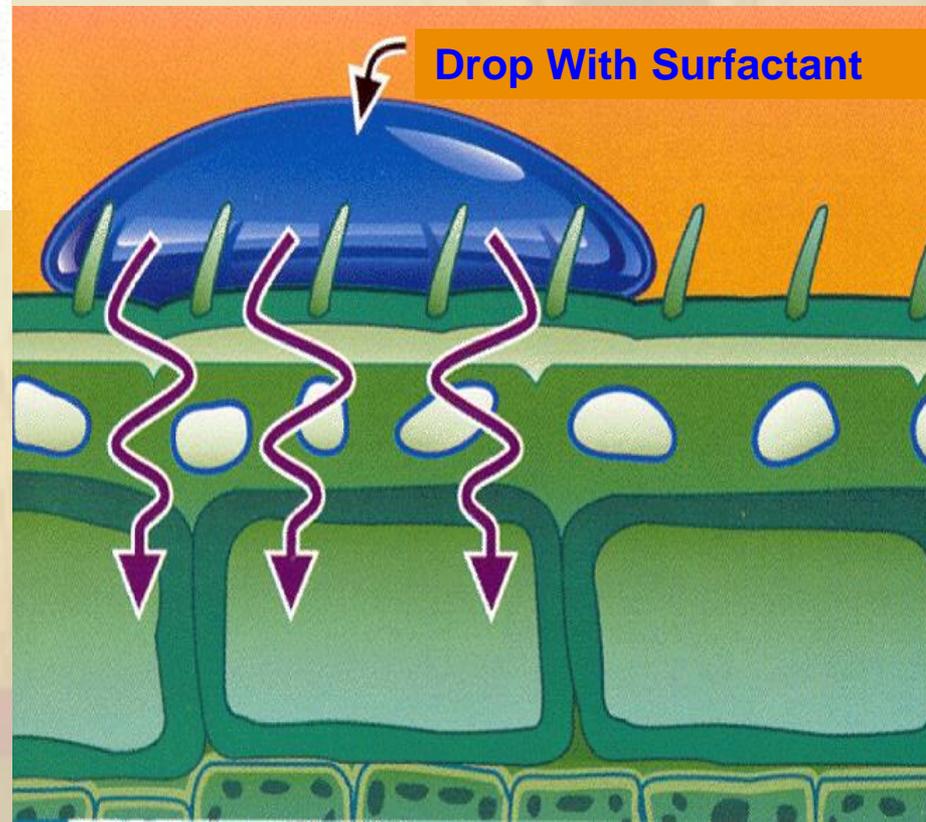
SCROPHULARIACEAE

- ❖ Tordon 22K- 2 qt/AC
 - Apply at bud to bloom stage
 - Use silicone/blend surfactant (waxy leaves)
- ❖ Telar- 2 oz/AC
 - Apply bud to bloom or fall rosette stage
 - Surfactant use is critical
- ❖ Telar + Tordon 22K = TNT



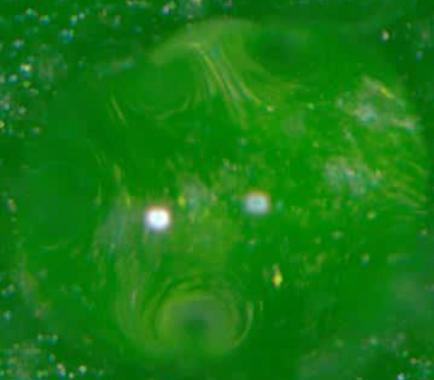
- ❖ Surface tension of water is 72 dynes/cm
- ❖ Droplets sit on leaf hairs or surface
- ❖ Little leaf contact
- ❖ Reduced spray activity

- ❖ Surfactant reduces surface tension to 20-40 dynes/cm
- ❖ Droplets spread over leaf, penetrate hairy surfaces
- ❖ Broader leaf contact
- ❖ Increased spray activity





No surfactant, hairy leaf



By Dr. Heping Zhu, USDA-ARS-ATRU

With surfactant, hairy leaf



By Dr. Héping Zhu, USDA-ARS--ATRU



No surfactant, hairy leaf

By Dr. Heping Zhu, USDA-ARS-ATRU

With surfactant, hairy leaf



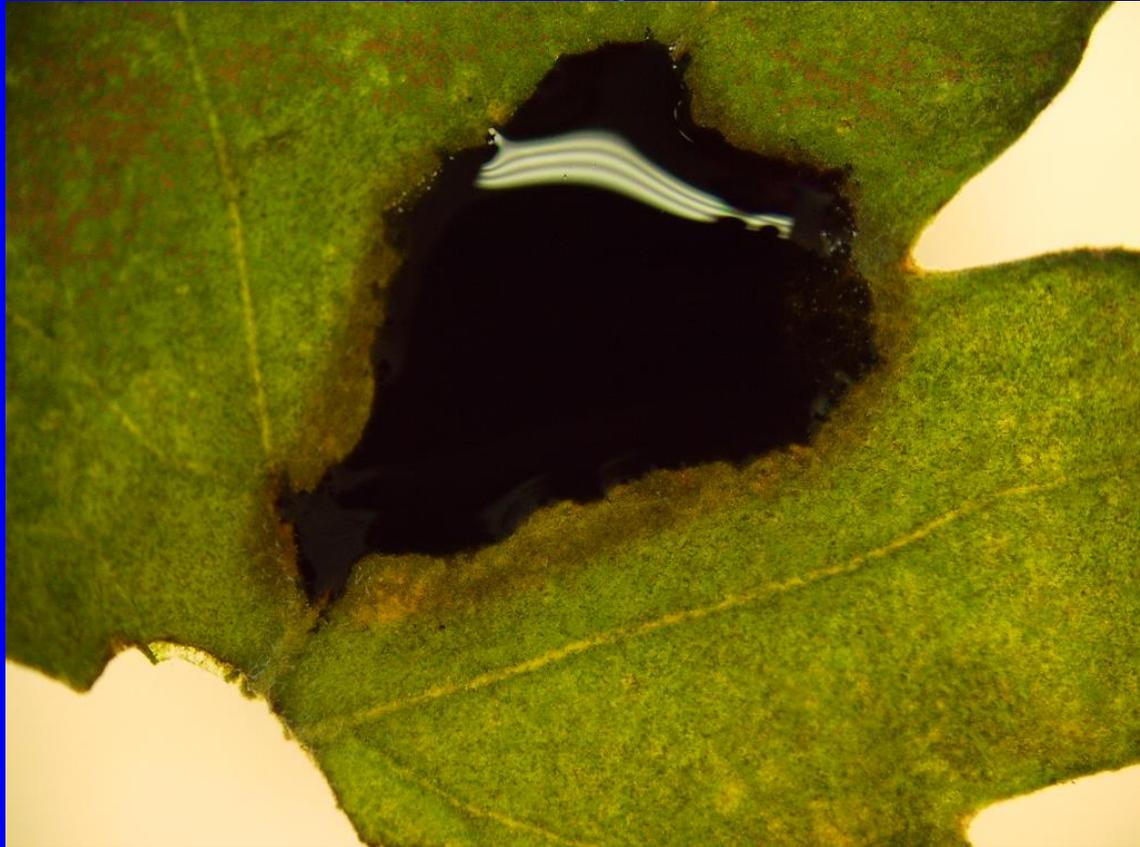
By Dr. Heping Zhu, USDA-ARS--ATRU



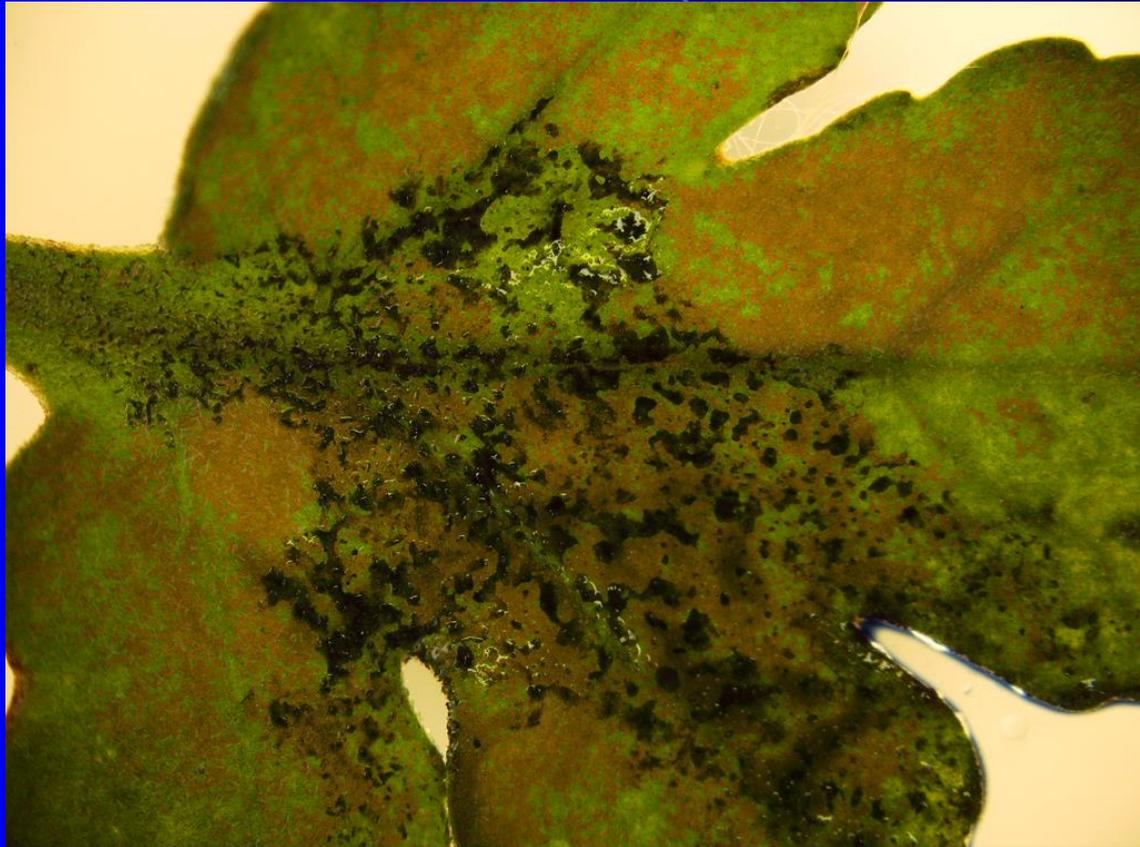
SYL-TAC[®]

**MODIFIED VEGETABLE OIL CONCENTRATE/
ORGANOSILICONE SURFACTANT BLEND**





Dye 30 minutes



SYL-TAC 10 minutes



SYL-TAC 30 minutes



Grassy Weed Control in Range and Pasture Featuring Canter R & P

Joel Fields

Wilbur-Ellis Company

jfields@wilburellis.com

Herbicides



✦ Outrider

- ◆ Range and pasture label

✦ Canter R & P

- ◆ Good annual grass control labeled for R & P

Outrider Herbicide by Monsanto

- ✦ Outrider is labeled for pastures, road ways and non-crop areas.
- ✦ It's mode of action gives you flexibility as to when you spray. Late fall or spring.
- ✦ Packaged in 20oz bottles



Weeds Controlled

-
- ✦ Barley, volunteer
 - ✦ Bedstraw, catchweed
 - ✦ Bluegrass, bulbous
 - ✦ Bluegrass, roughstalk
 - ✦ Brome, downy
 - ✦ Brome, ripgut
 - ✦ Buttercup
 - ✦ Chamomile, mayweed
 - ✦ Chess, hairy
 - ✦ Chickweed, common
 - ✦ Horseweed
 - ✦ Fiddleneck, tarweed
 - ✦ Johnsongrass
 - ✦ Ladysthumb
 - ✦ Mustard, tumble
 - ✦ Mustard, wild
 - ✦ Pennycress field
 - ✦ Purple Nutsedge
 - ✦ Quackgrass
 - ✦ Ragweed, common
 - ✦ Shepherd's-purse
 - ✦ Sunflower, common
 - ✦ Tansymustard, pinnate
 - ✦ Vetch, sand
 - ✦ Yellow Nutsedge

Recommendations

-
- ◆ **Sites:** roadsides, airports, ditch banks, dry ditches, dry canals, fencerows, industrial sites, lumber yards, railroads, storage areas, utility substations, range and pasture, etc.
 - ◆ **Application:**
 - a) *OUTRIDER* ® at 2/3 - 1.33 oz/a plus 0.5% v/v non-ionic surfactant.

Prosser, WA WSDOT site

✦ Date treated: 11-5-02

Prosser site spring of '03

✦ Rate:

- ✦ Outrider 1.33 oz/a

- ✦ Surfactant

 - Non Ionic at 2 qts/100

- ✦ Water Volume 20 gpa

✦ Conditions at time of application

- ✦ Dry with no sprout



Untreated check

Treated



Added benefit, mustard control



Rates



- ◆ Applied **alone** (2/3 - 1.33 oz/a + surfactant)

- ◆ **Safe** on many grass species
 - ◆ Fescue, Wheat grass-tall and intermediate, and Rye
- ◆ **Moderate** safety on wildflowers

What to expect for control on cheatgrass.

✦ Late fall applications:

- ◆ If applied on actively growing cheat in the first tiller stage at 1.33 oz/a. expect 95% + control plus seed head and fuel load reduction.
- ◆ If applied on bare ground in late fall expect 90% control with seed head and fuel load reduction

✦ Early spring applications:

- ◆ When applied at 2/3 oz/a when cheat is in the 3 – 4 tiller stage expect 75% control with surviving plants producing only 20% of there seed. You can increase the rate up to 1.33oz/a if you are willing to have some reduction in desirable grasses.



CANTERTM R+P



FORMULATION



For postemergent control of certain grasses and broadleaf weeds in Rangeland, Pastures and Conservation Reserve Program land.

- ✦ Propoxycarbazone-sodium...70%
- ✦ Inert Ingredients.....30%

GENERAL INFORMATION

Use Rate: 0.9 to 1.2 oz. / ac.

✦ 70% water dispersing granule

✦ Mixing pH must be above 5

◆ Suggested water conditioner – Climb®

✦ Requires 4 hours of drying time for rainfastness

✦ 0.5 inches of rainfall required to activate

-Package size – 5 oz and 27 oz. packaging

- 
-
- No Grazing Restrictions
 - Hay Restriction of 7 Days After Application
 - Cheat Control
 - Foxtail Suppression
 - Ventenata suppression
 - Excellent Grass Safety



Crested Wheat

Western

Intermediate

Wheat

Green Needlegrass

Idaho

Fescue

Sandberg
Bluegrass

Smooth
Bromegrass

Bozoisky
Russian
Wildrye

Azay Sheep
Fescue

Orchard Grass

Grasses Controlled

Common Name	Scientific Name	Application Rates	
		0.9 ounces/acre	1.2 ounces/acre
Cheat (true cheat)	<i>Bromus secalinus</i>	C	C
Dense silky-bent (Windgrass)	<i>Apera spica-venti</i>	C	C
Downy brome	<i>Bromus tectorum</i>	PC	C
Foxtail Barley	<i>Hordeum jubatum</i>	PC	PC
Hood canarygrass	<i>Phalaris paradoxa</i>	C	C
Japanese brome	<i>Bromus japonicus</i>	C	C
Johnsongrass	<i>Sorghum halepense</i>	PC	PC
Littleseed canarygrass	<i>Phalaris minor</i>	C	C
Quackgrass	<i>Elytrigia repens</i>	PC	PC
Rattail grass	<i>Vulpia myuros</i>	PC	PC
Rescue grass	<i>Bromus catharticus</i>	-	PC
Ripgut brome	<i>Bromus rigidus</i>	PC	C
Soft Chess	<i>Bromus hordeaceus</i>	C	C
Wild oat	<i>Avena fatua</i>	PC	C
Windgrass	<i>Apera interrupta</i>	C	C

Broadleaf Weeds and Sedges Controlled

Common Name	Scientific Name	Single Application 0.9 - 1.2 ounces/acre
Black mustard	<i>Brassica nigra</i>	C
Black nightshade	<i>Solanum nigrum</i>	C
Blue mustard	<i>Chorispora tenella</i>	C
Buffalobur	<i>Solanum rostratum</i>	C
Burr buttercup	<i>Ranunculus testiculatus</i>	C
Bushy wallflower	<i>Erysimum repandum</i>	C
Carolina geranium	<i>Geranium carolinianum</i>	PC
Catchweed bedstraw	<i>Galium aparine</i>	PC
Common chickweed	<i>Stellaria media</i>	C
Common cocklebur	<i>Xanthium strumarium</i>	PC
Common groundsel	<i>Senecio vulgaris</i>	C
Common lambsquarters	<i>Chenopodium album</i>	PC
Common purslane	<i>Portulaca oleracea</i>	PC



Canter R + P

Plot Trial

Cheat Control in Orchard Grass

Hay/Pasture

Madras, Oregon



Canter R + P

- Orchard Grass Pasture/Hay
- Application Date – 26 Sept. 2011
- Temperature – 64 Degrees
- Wind Speed – 3 – 5 mph
- Weather Conditions – Clear/Sunny



Canter R + P

Application Rates

1.2 oz. Canter

1.5 pts. Broadrange 55

4 oz. In-Place

1 Qt/100 gals. R -11

2 oz./gal solution Climb

Irrigation

12 hour sets October 1st-3rd



Date of Pictures : 26 Sept, 2011

Pre Treatment











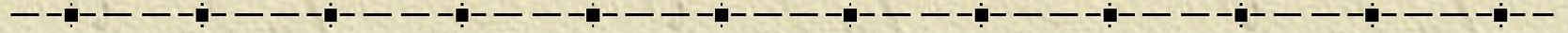
Date of Pictures: 4 October, 2011

Post Treatment









Date of Pictures: 13 October, 2011





Untreated





Canter R + P

New Plymouth ID

Applied the week of may 16 2011

1.2 oz/ac with 2qt/100 of R-11 and climb.

Foxtail was about 2-3'' tall.

Remaining grass is mostly bluegrass. I did not observe any injury to the clover in the pasture.







CANTERTM R+P



Alfalfa Herbicides

Seedling and Established



- 2 trifoliolate leaf alfalfa, 30 day PHI
- <3 inches regrowth in established stands
- Adjuvants and N fertilizer required
- Tankmix for ALS resistant kochia
- Lengthy plant back restrictions

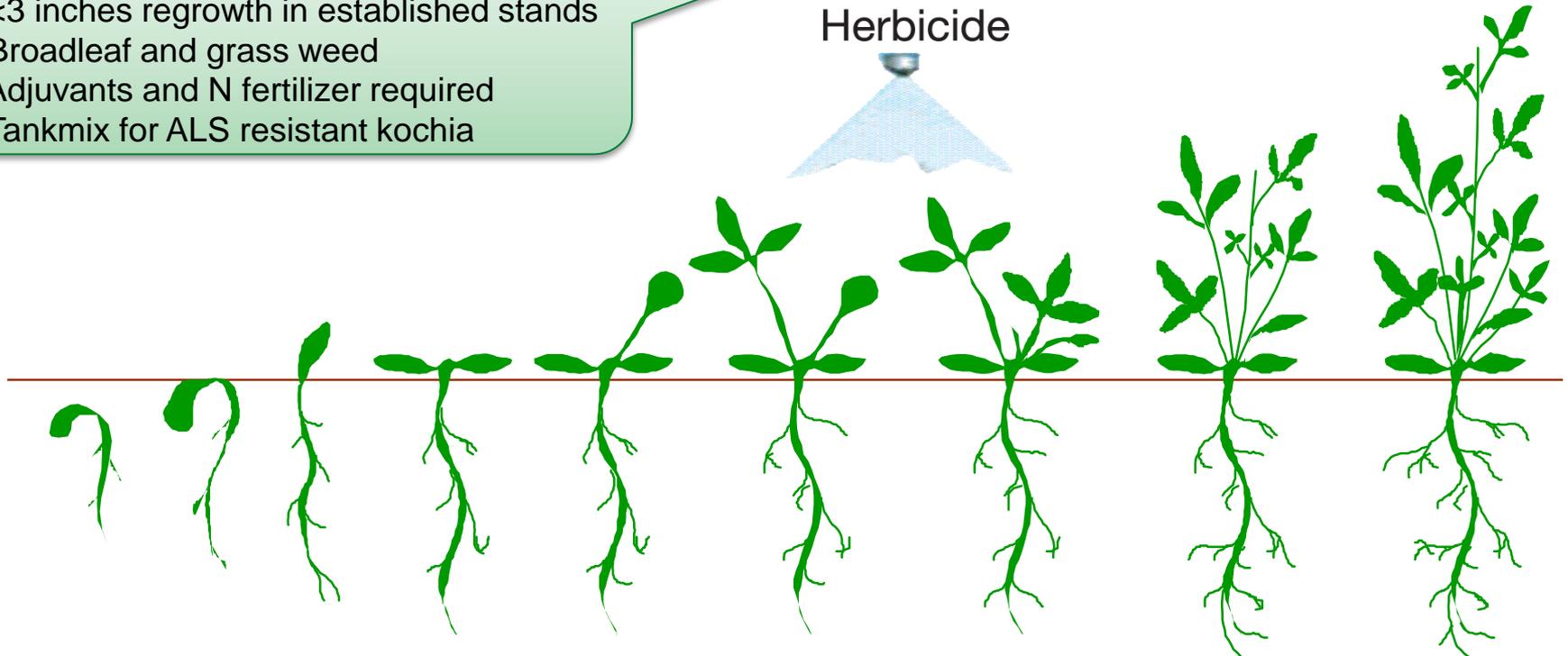
Pursuit®

Herbicide

- 2 trifoliolate leaf alfalfa, 0 day PHI
- <3 inches regrowth in established stands
- Broadleaf and grass weed
- Adjuvants and N fertilizer required
- Tankmix for ALS resistant kochia

Raptor®

Herbicide



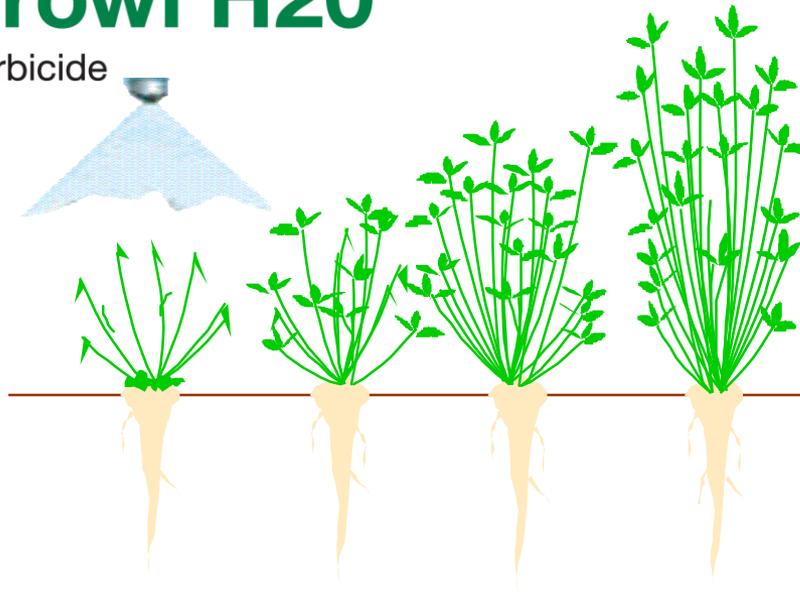
Alfalfa Herbicides

Seedling and Established

- Minimum 2 trifoliate leaves (seedling)
- Less than 6 inches of regrowth (established)
- 1.1 - 4.2 qt./A
- 28 day PHI w/ < 2.1 qt. or 50 days with higher rates
- Residual weed control
- Must be incorporated

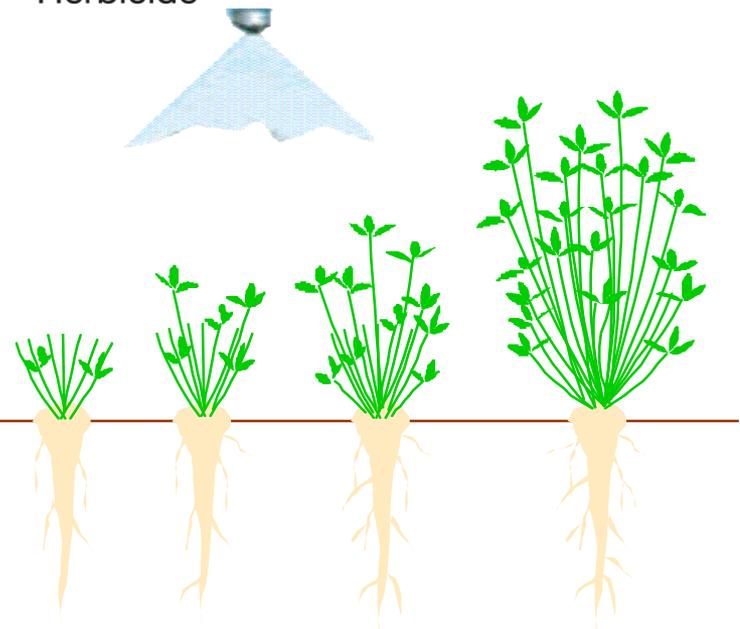
Prowl H20[®]

Herbicide



Prowl H20[®]

Herbicide



Prowl H20[®]

Herbicide



- Rate Range: 1.1 – 4.2 qt./A
- Established alfalfa hay preharvest intervals
 - If ≤ 2.1 quarts/A is applied, then PHI is 28 days.
 - If > 2.1 quarts/A is applied, then PHI is 50 days.
- Seedling alfalfa rate maximum of 2.1 pints/A.
- Extended followcrop restrictions when greater than 2.0 qts./A is applied.

Prowl Residual Activity



Untreated



Raptor (4.0 oz./A) + Prowl H2O (2.4 qt./A)



The Chemical Company

DuPont Velpar AlfaMax[®]

- 30 lb. Bags
- XP Formulation



The miracles of science™

Velpar® alfaMax™ XP herbicide

Alfa Hay

- Broadleaf and grass control in pure stands of alfalfa
- Mode of Action: Photosynthetic inhibitor
- Absorbed by roots, some through foliage

Velpar® alfaMax™ XP herbicide

Alfalfa Hay

- Alfalfa Stand Age: - 1 year old stands
- Application Timing: - Dormant / 1-2 killing frosts
- Application Rates: - Determined by % OM, soil tex.
- Best Results:
 - Moist soils, small weeds, rainfall
 - Surfactants, MSO's
- Crop Rotation - 2 years after last application

DuPont Alfalfa Herbicides

Choosing The Right Herbicide...

<u>Weeds</u>	<u>Sinbar</u>	<u>Velpar</u>	<u>Karmex</u>	<u>AlfaMax</u>
Chickweed	E	E	E	E
F. Pennycress	E	E	E	E
P. Mustard	P	E	G	E
JH Mustard	E	E	E	E
Tansy Mustard	E	E	E	E
Shepherdspurse	E	E	E	E
P. Knotweed	E	-	P	G
Prickly Lettuce	E	E	E	E
Mayweed	-	E	E	E

DuPont Alfalfa Herbicides

Choosing The Right Herbicide...

<u>Weeds</u>	<u>Sinbar</u>	<u>Velpar</u>	<u>Karmex</u>	<u>AlfaMax</u>
Kochia	G-E	-	E	E
Russian Thistle	G-E	-	G-E	G-E
Lambsquarters	E	E	E	E
Pigweed	E	E	E	E
Barnyardgrass	E	-	E	E
Downy Brome	E	E	F	E
Foxtail	E	E	E	E
Quackgrass	F	F	P	F
Dandelion	F-G	F-G	-	F-G

Velpar® alfaMax™ XP herbicide

Improved weed control

Barnyardgrass

Prickly lettuce

Downy brome

Chickweed

Foxtail

Kochia

Mayweed

Lambsquarters

Mustards

Pigweeds

Velpar® alfaMax™ XP herbicide

Timing of Application

After Dormancy occurs or before new growth begins

Dormancy:

- Function of day length and temperature
- Winter days (Nov thru Dec) are short and alfalfa is not metabolizing
- Killing frost in the evening = dormancy

Velpar® alfaMax™ XP herbicide

Stands established for one year or one growing season

Size of alfalfa: rule of thumb – 12 “ tap root and the size of a pencil

Weeds should be no larger than 2” high or across



½ to 1 inch of moisture w/in 2 weeks of application

Do not apply to frozen ground

Use of Gramoxone

Velpar L ®	AlfaMax XP	AlfaMax XP
2.0 pts.	1.5 lbs / acre	20 acres / bag
3.0 pts.	2.0 lbs. / acre	15 acres / bag

Combines 2 powerful alfalfa herbicides

Disposable, resealable 30# bag

Dry Formulation

Non-flammable

Not susceptible to freezing

Quick clean up

Minimum waste handling



2013



CORN • SOYBEANS • ALFALFA • LEAFY SILAGE • SORGHUM • CANOLA • SUNFLOWERS





Alfalfa 8401RR



VARIETY HIGHLIGHTS

- Features Genuity® Roundup Ready® Technology
- Convenient, with one herbicide can provide improved stands and weed control during establishment
- High yielding with good regrowth
- Highly resistant to all six major alfalfa diseases; Wisconsin DRI of 30 out of 30
- Can bring fields with problem weeds back into production

CHARACTERISTICS

Fall Dormancy	4
Winter Survival	2-Hardiness
Tonnage Potential	Excellent

DISEASE RESISTANCE

Bacterial Wilt	HR
Verticillium Wilt	HR
Fusarium Wilt	HR
Anthracnose	HR
Phytophthora Root Rot	HR
Aphanomyces Root Rot	HR

PEST RESISTANCE

Pea Aphid	R
Stem Nematode	R

Questions ?
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WILBUR-ELLIS