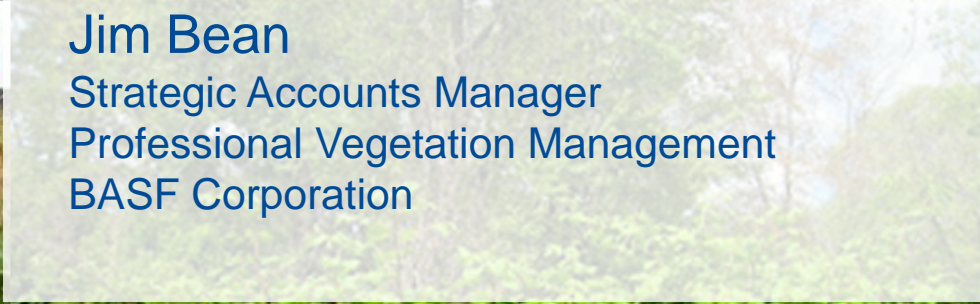




# Invasive Weed Control in Pasture and Rangeland

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Professional Vegetation Management  
BASF Corporation



 **BASF**

We create chemistry



# Agenda

- 7 key invasive weeds
- Herbicide control options
- Tips for success

# Invasive Weeds

- Invasive weeds are spreading rapidly
- Harming pasture and rangeland
- Early detection and control is the key
- Use this guide for control options



# Japanese Knotweed



# Japanese Knotweed

- Common along roadsides, pastures and riparian areas
- Most of the U.S. (except S.W.)
- Spreads by seed and rhizomes
- Grows 8 to 10 feet tall
- Forms monocultures



# Japanese Knotweed

## Control Options

- When growing in the open or in open riparian areas
  - ▶ 48 oz. Arsenal (Habitat) + 2 oz. Detail + 1% MSO per acre
    - Note: Arsenal and Habitat are the same formulation
    - Arsenal and Habitat have aquatic labels
  - ▶ 2% Arsenal (Habitat) + 1/8% Detail + 1% MSO v/v
    - Do not treat more than 1/10 of the area to be grazed
- When growing near hardwoods
  - ▶ 1 gal. Accord XRT + 2 oz. Detail + 1% MSO per acre
  - ▶ 2% Accord XRT + 1/8% Detail + 1% MSO v/v
    - Do not treat more than 1/10 of the area to be grazed
    - Wait 7 days after application before grazing livestock
  - ▶ 7 oz. Milestone per acre or 14 oz. spot spray (suppression only)



# Japanese Knotweed Control – 8 MAT

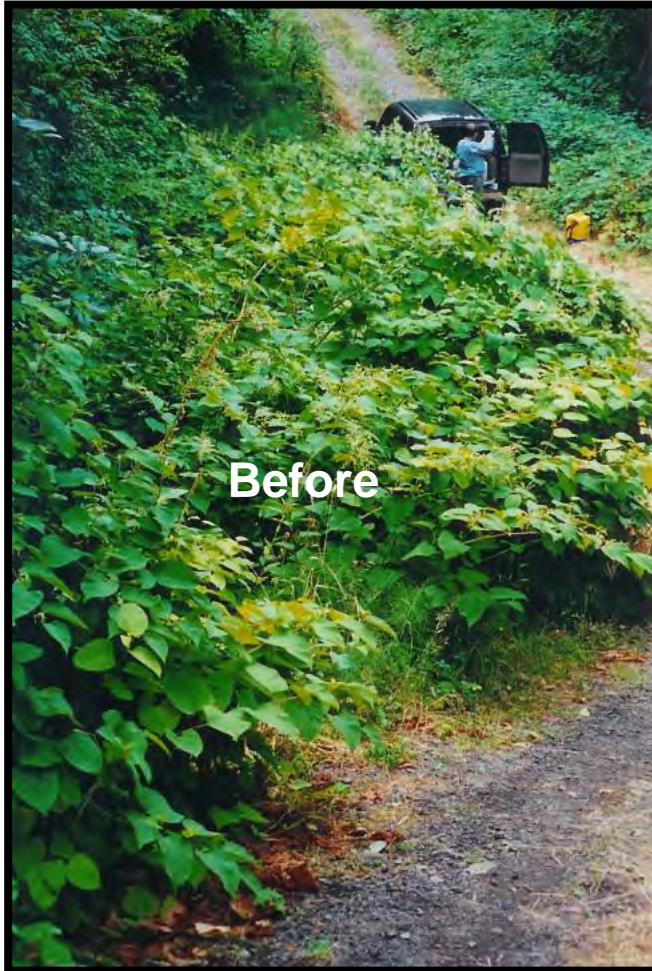
0.25% Arsenal + 1% MSO





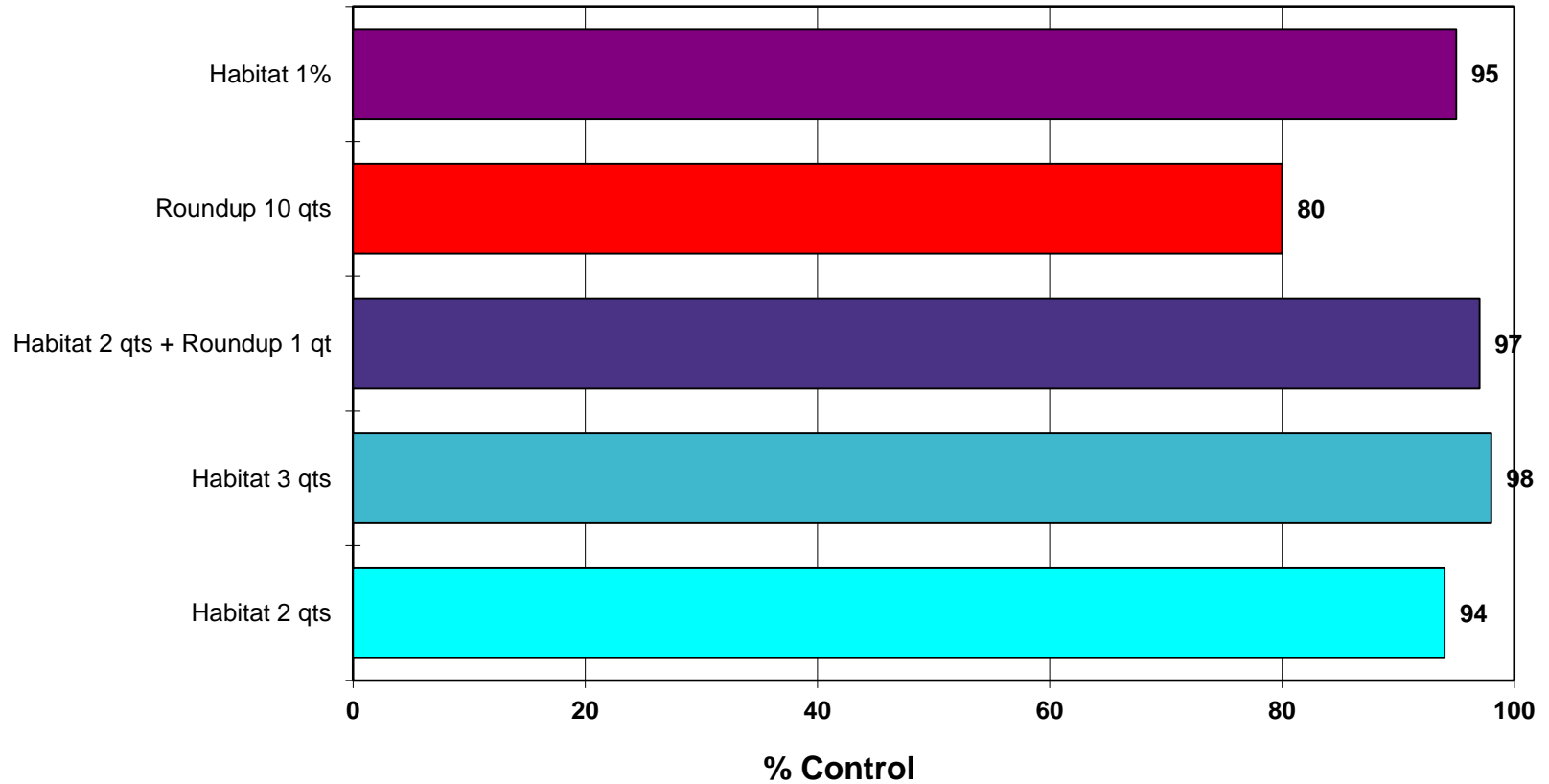
# Japanese Knotweed Control – 8 MAT

Arsenal 2 qts. per acre – August Application





# *% Control of Japanese Knotweed – 1 YAT*



Based on actual stem counts

# Johnsongrass





# Johnsongrass

- Common along roadsides, pastures and disturbed areas
- Southern U.S. and parts of Northeast, Midwest and Northwest
- Spreads by seed and rhizomes
- Forms dense patches



# Johnsongrass

## Control Options

- 12 oz. Plateau + 1% MSO
  - ▶ Best control is in late summer
  - ▶ Cut and allow to resprout to at least 2 ft. tall before application
- 1.33 oz. Outrider + ¼% NIS
  - ▶ Spray when actively growing
  - ▶ Late summer
  - ▶ Spray when 2 ft. tall





# Cogongrass



Picture courtesy of John Byrd

# Cogongrass

- Common along roadsides, in pasture and riparian areas
- Southeast U.S.
- Thrives with fire
- Highly flammable
- Spreads by seed and rhizomes
- Forms monocultures





# Cogongrass

## Control Options

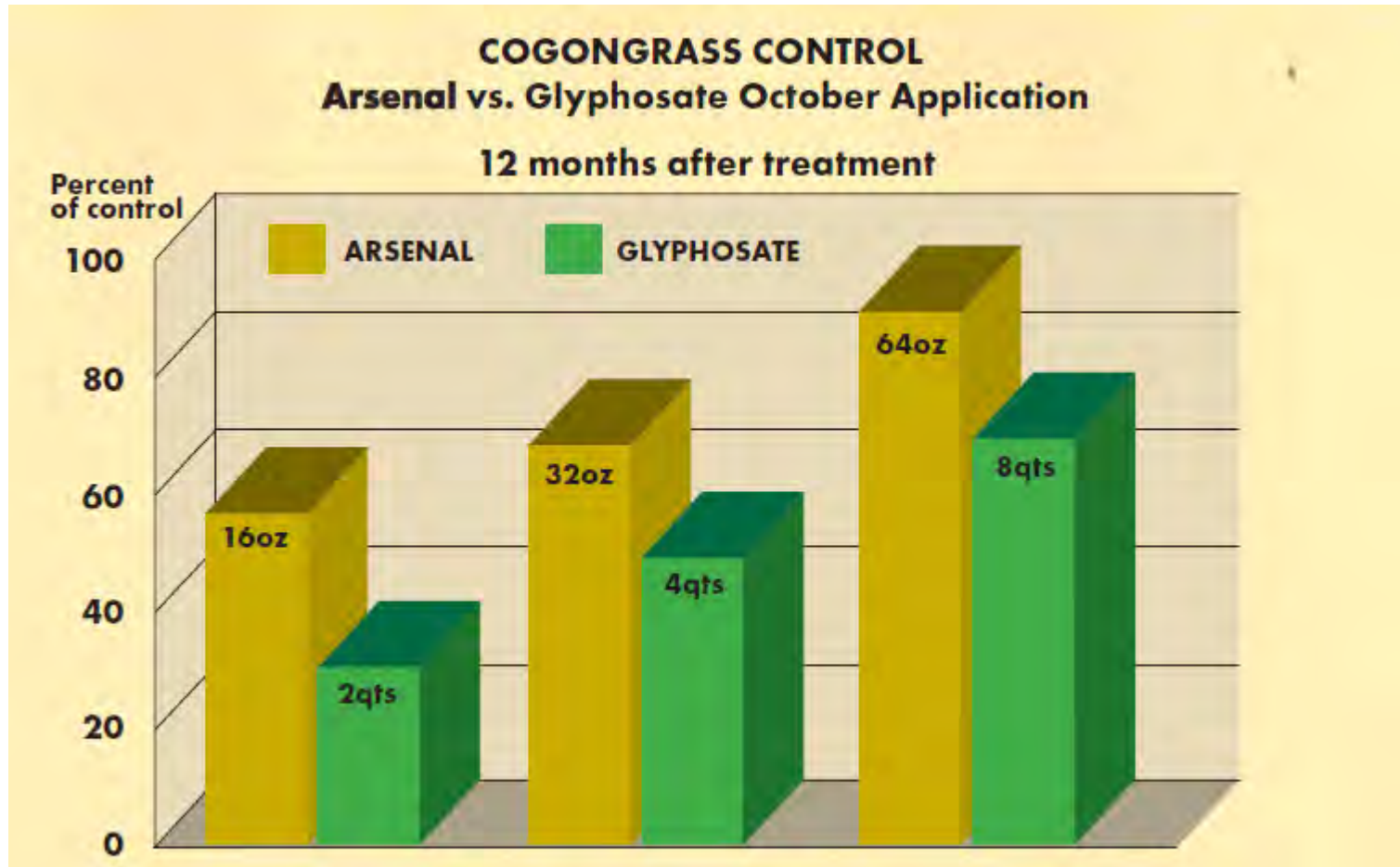
### ■ When growing in the open

- ▶ 64 oz. Arsenal + 2 oz. Detail + 1% MSO per acre
- ▶ 1% Arsenal + 1/8% Detail + 1% MSO v/v
  - Do not treat more than 1/10 of the area to be grazed
  - Arsenal has an aquatic label

### ■ When growing near hardwoods

- ▶ 2 gal. Accord XRT + 2 oz. Detail + 1% MSO per acre
- ▶ 4% Accord XRT + 1/8% Detail + 1% MSO v/v
  - Do not treat more than 1/10 of the area to be grazed
  - Wait 7 days after application before grazing livestock

# Cogongrass



# Canada Thistle





# Canada Thistle

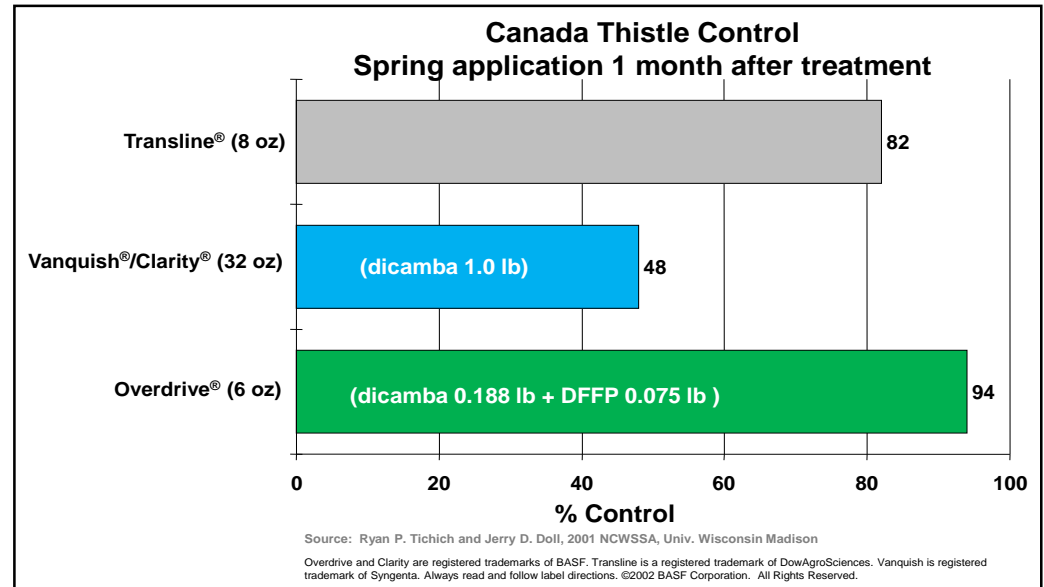
- Common along roadsides and in pastures
- Northern U.S.
- Spreads by seed and horizontal roots



# Canada Thistle

## Control Options

- 6 oz. Overdrive + 1% MSO
  - ▶ Best control is in the spring
- 8 oz. Transline
- 7 oz. Milestone



# Canada Thistle





# Leafy Spurge



# Leafy Spurge

- Common along roadsides and in pastures
- Northern U.S.
- Spreads by seed and rhizomes
- Forms monocultures



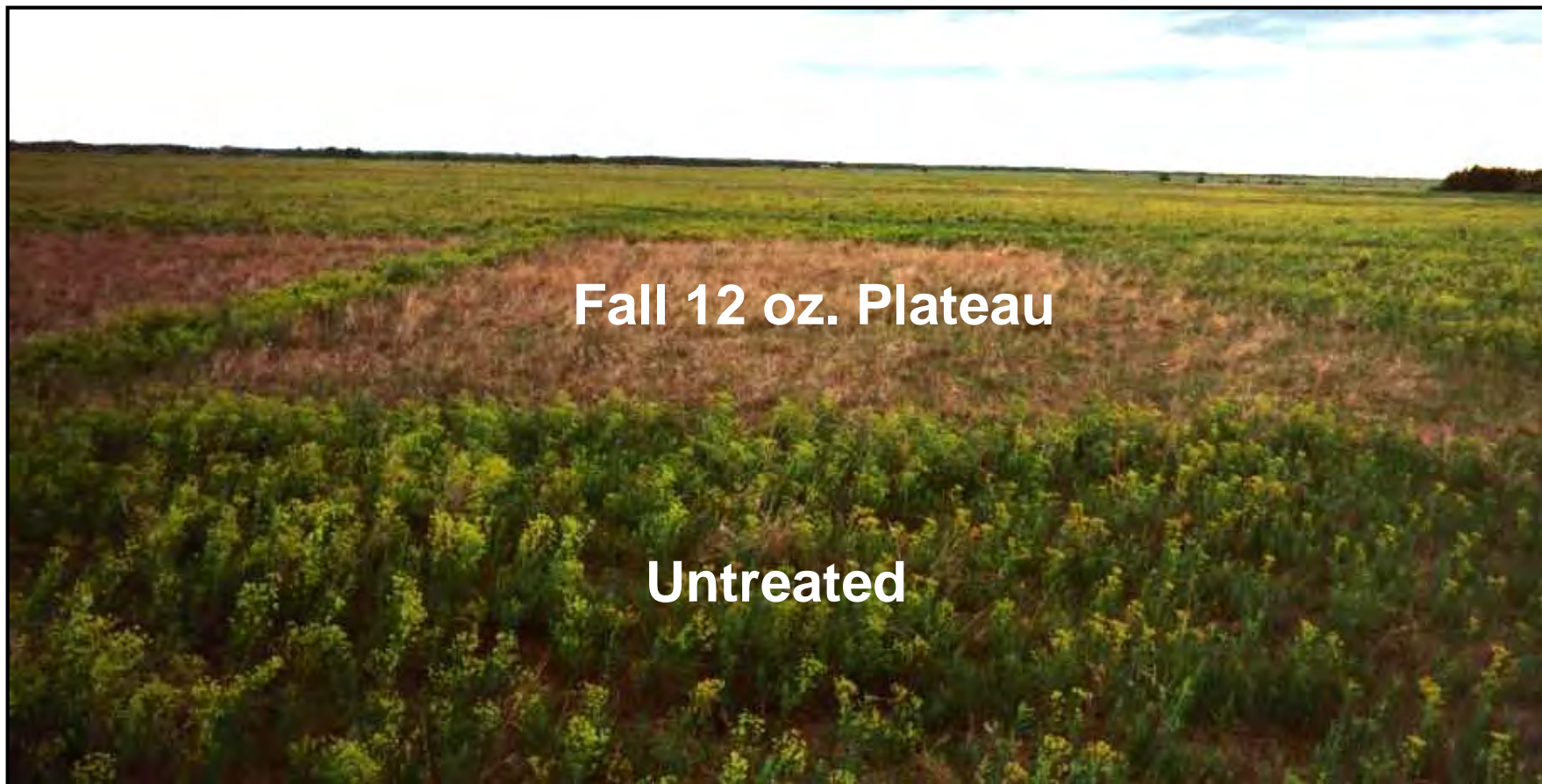
# Leafy Spurge

## Control Options

- 8 - 12 oz. Plateau + 1% MSO
  - ▶ Best control is in the fall
  - ▶ Some cool season grass injury can occur
- 4 oz. Plateau + 2 oz. Detail in spring
- 6 oz. Overdrive + 16 oz. Tordon 22K in spring



# Leafy Spurge - Fall



Fall 12 oz. Plateau

Untreated

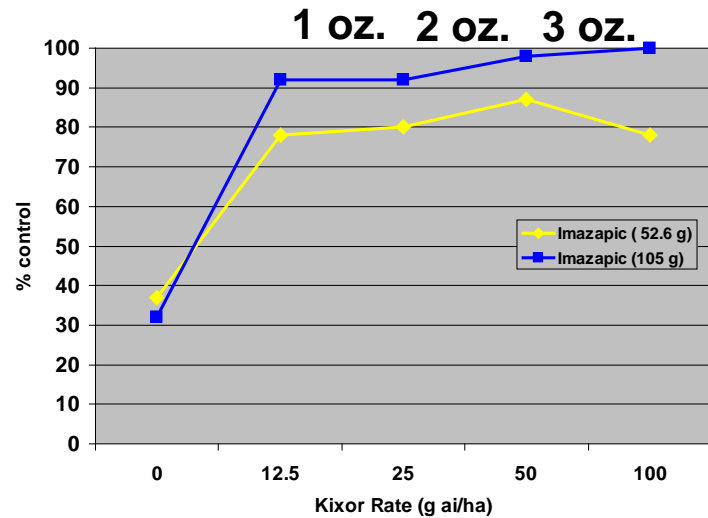
# Leafy Spurge – Spring Detail / Plateau

- ▶ Univ of NE (Dr. Stevan Knezevic), initiated in 2007 and repeated in 2008.
- ▶ Applications were made at the yellow bract stage of leafy spurge in the spring.
- ▶ Results –
  - Adding DETAIL improved leafy spurge control over Plateau alone applied in the spring. This improved performance held 2 years (2 YAT) after treatment.

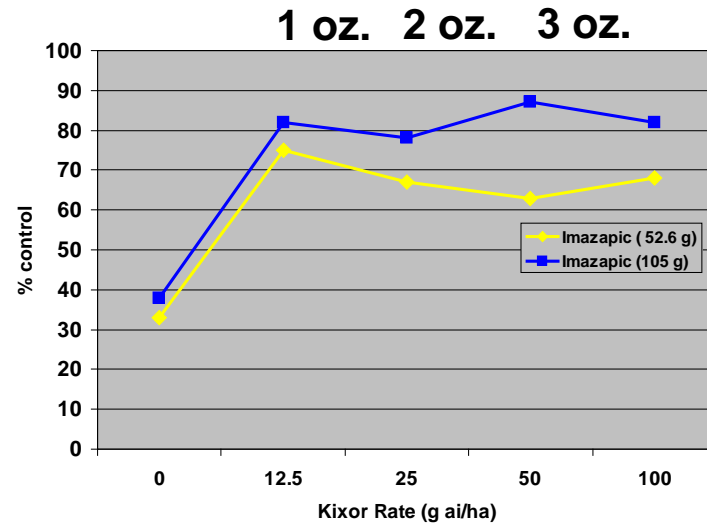
# Leafy Spurge – Spring Detail / Plateau

■ Plateau at 3 oz. and 6 oz.:

Leafy Spurge Control with Spring applications of DETAIL  
(Kixor) plus Plateau @ 1 and 2 YAT



1 YAT



2 YAT

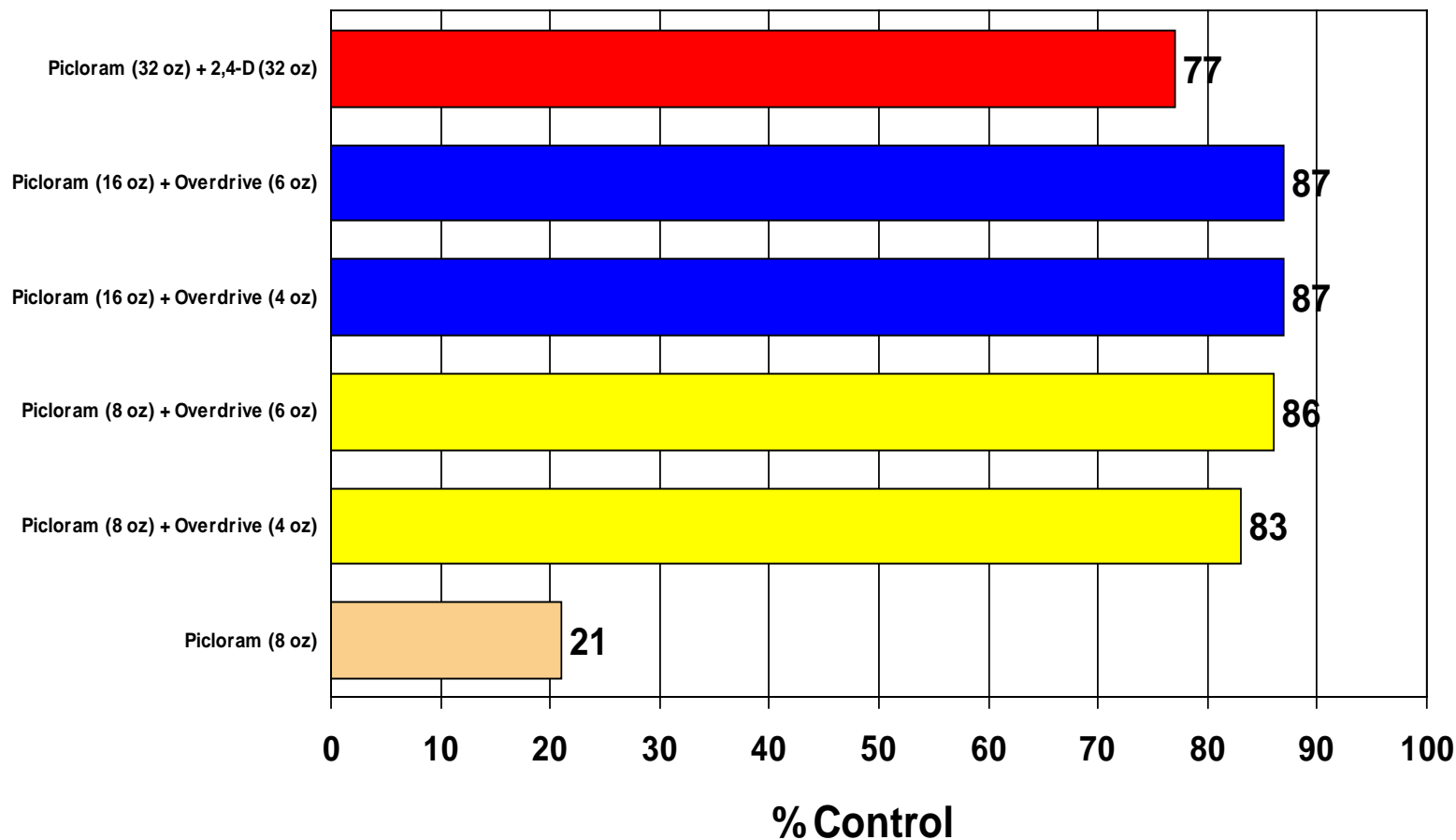


# Leafy Spurge – Spring Detail / Plateau – 1 YAT



# Leafy Spurge Control – Spring Overdrive

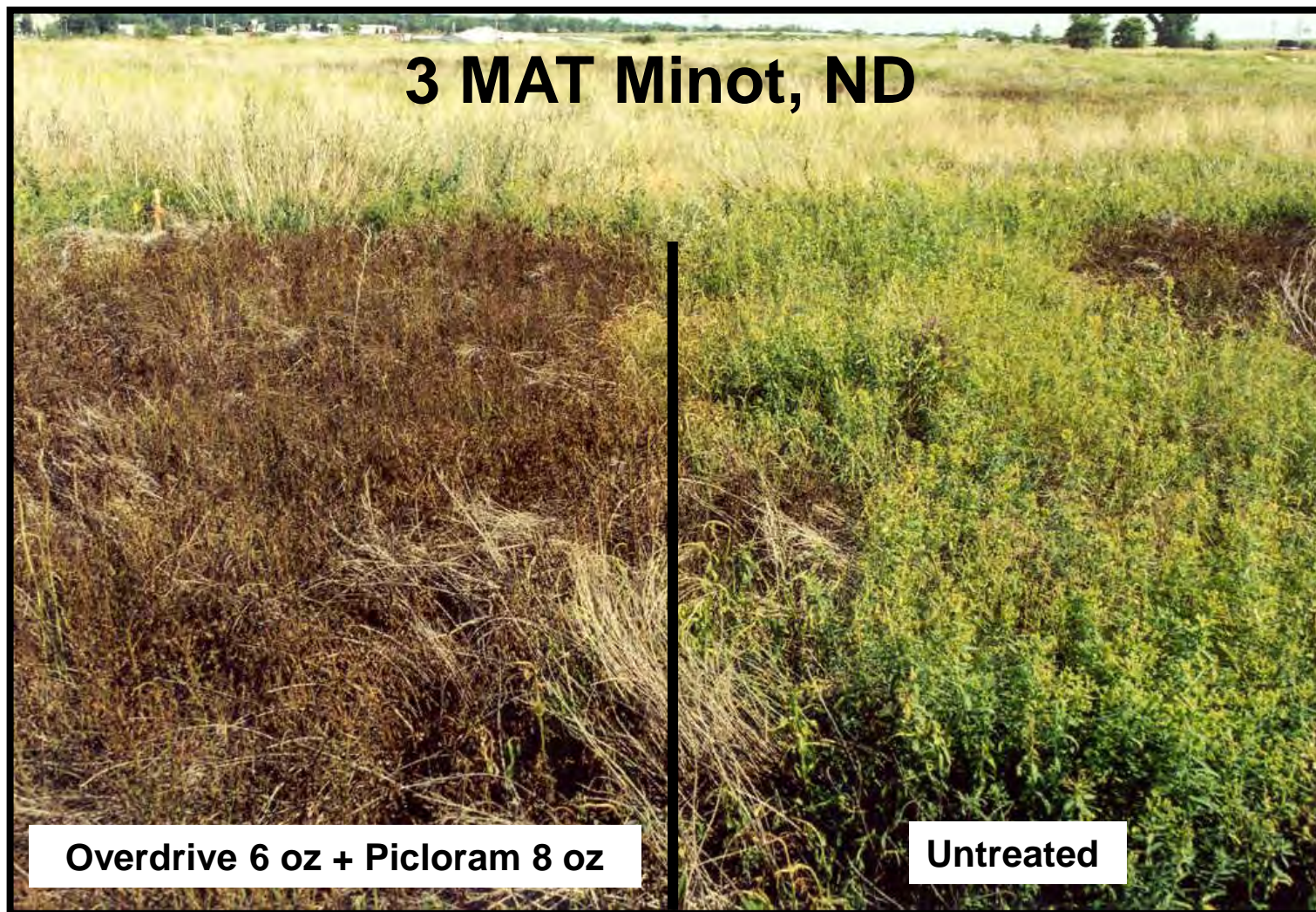
1 yr after treatment, 2 sites



All treatments had 0.25% NIS Nebraska, North Dakota sites  
BASF Research trials

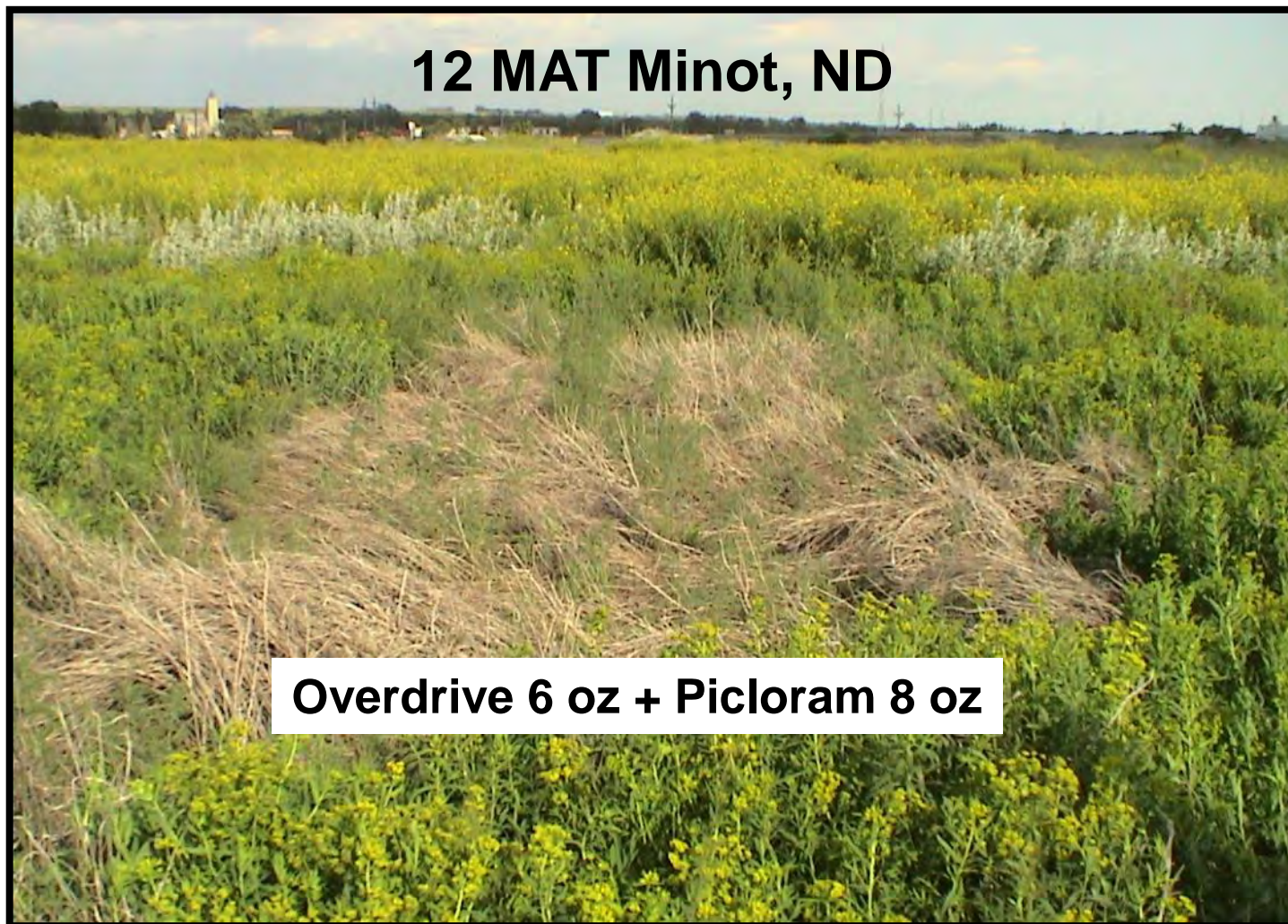


# Leafy Spurge - Spring





# Leafy Spurge - Spring





# Cheatgrass



# Cheatgrass

- Common along roadsides, in pastures and rangeland
- Western U.S.
- Thrives with fire
- Highly flammable
- Spreads by seed
- Forms monocultures





# Cheatgrass

## Control Options

- 2 – 10 oz. Plateau
  - ▶ Rate varies greatly by region
  - ▶ Pre-emergent application
  - ▶ Late summer before green-up
  - ▶ Best results after fire
  - ▶ Some cool season grass injury can occur
- 5 oz. Esplanade



# Cheatgrass - Johnson Creek Wildlife Unit, WY G&F





# Cheatgrass - Johnson Creek Unit WG&F - 1 YAT





# Cheatgrass - Johnson Creek Unit 2



# Medusahead





# Medusahead

- Common along roadsides, in pastures and rangeland
- Western U.S.
- Thrives with fire
- Highly flammable
- Spreads by seed
- Forms monocultures





# Medusahead

- Eastern OR, WA and western ID
- Competes with native grasses and forbs
- Has invaded BLM lands
- BASF has worked with BLM for over 10 years to develop protocols for rehab efforts



# Medusahead

## Control Options

- 6 - 8 oz. Plateau
  - ▶ Pre-emergent application
  - ▶ Late summer before green-up
  - ▶ Best results after fire
  - ▶ Some cool season grass injury can occur
  
- 5 oz. Esplanade





# Medusahead Control Following Wildfire



7 oz. Plateau + MSO



# Native Plant Release Following Wildfire

7 oz. Plateau + MSO for Medusahead



# After Fire Restoration

**The best time to apply Plateau is immediately after a fire!**

- PLATEAU
- Wildfire May-August
  - ▶ Allow carbon residue to dissipate (~2wks)
  - ▶ Apply after late July up to germination of brome
  - ▶ Seed at the desired time
- PLATEAU + Glyphosate
- Wildfire May-August
  - ▶ Allow carbon residue to dissipate (~2wks)
  - ▶ Apply after brome germinate, up to early tiller
  - ▶ Seed after herbicide application

# Plateau

- Additional Invasive Weeds Controlled with Plateau
  - ▶ Japanese Brome
  - ▶ Russian Knapweed
  - ▶ Dalmatian Toadflax
  - ▶ Sandbur





# Tips for Success - Plateau

- Know the species of grass you want to save and ensure it is tolerant
- Plateau is safe in and around established hardwoods
- Plateau is used in August/September **BEFORE** Cheatgrass and Medusahead have emerged (**PRE-EMERGENCE**)
- In many cases, 6-10 oz. per acre is the appropriate rate providing control but not damaging desirable forbs and grasses
- Use lower Plateau rates 2-4 oz. on sandy soils, with low pH or in in cool dry sites. Use higher rates in high rainfall areas
- Reducing the thatch layer through burning or heavy grazing will greatly improve performance
- Add 1% MSO for post-emergent applications

# Tips for Success - Arsenal

- Excellent option where invasive weeds are growing in the open
- Glyphosate is the next best alternative and should be used in and around hardwoods
- Only treat 1/10 the area to be grazed with either Arsenal or Glyphosate
- Treat pasture before invasive weed takes over the field
- Arsenal and Glyphosate have aquatic labels so they can be use in and around water
- Add 1% MSO for post-emergent applications

# Tips for Success - Overdrive

- Excellent option for spring invasive weed control
- Broad spectrum and will not harm grass
- Use higher rates of Overdrive alone
- Often mixed with picloram to improve control
- Add 1% MSO for post-emergent applications



# Tips for Success - Detail

- Excellent option for spring leafy spurge control with Plateau
- Enhances burndown and control of Arsenal and glyphosate
- Add 1% MSO for post-emergent applications
- Add water conditioner to keep pH with the range of 6.0 to 7.5 for best control
- Coverage is critical

# BASF ProVM Podcasts

- 5 - 7 Minute Podcasts
  - Posted on the ProVM website
  - Timely subjects

[www.bettervm.basf.us](http://www.bettervm.basf.us)



# BASF ProVM Webinars

- 15 – 30 Minutes
  - Slides and Audio
  - Posted on the ProVM website
  - Timely subjects

[www.bettervm.basf.us](http://www.bettervm.basf.us)





# Questions?

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**Visit our website at [www.bettervm.basf.us](http://www.bettervm.basf.us) for  
additional product information!**

**Thank You!**