Knotweed Suppression

Results over the last 3 years

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UW Extension

Knotweed can invade a wide range of habitats

Before you select a management method determine the following:

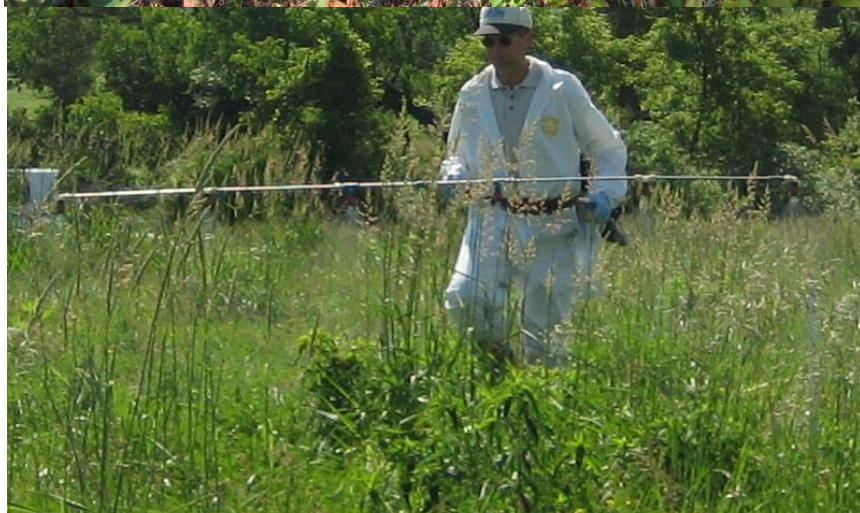
1. What products are labeled for use at this location?
   - Homeowner (urban), Roadside (noncrop), Streambank(aquatic)
2. What desirable plants are present or will be seeded?
   - Herbicide selectivity/residual activity
3. What is the size of the infestation?
   - Individual plant treatment vs largescale
4. How accessible is the infestation?

How we evaluate herbicide effectiveness

1. Dense population of target weed species

2. Replicated trial
   - Evaluate treatments/timings

3. Broadcast treatments
   - 10 x 25 ft per plot
   - **20 GPA**
   - Uniform coverage/distribution



Methods evaluated:

- **2012:**
  - Herbicides applied in summer after mowing
  - Herbicides applied in fall after mowing 2x
- **2013:**
  - Herbicides applied in fall after mowing 1x
- **2014:** (no info in this presentation!)
  - Milestone applied in fall after
    - Not mowing (60, 80 100 GPA)
    - Mow 1x (July)
    - Mow 2x (July + August)

Why have we been mowing plots before treating?

- Allows for more accurate application
  - Less off target injury, less herbicide used
- More herbicide applied closer to root
  - Better translocation
- Easier to apply
  - Not walking through a jungle
- Mowing promotes grass

2012 Site and Methods

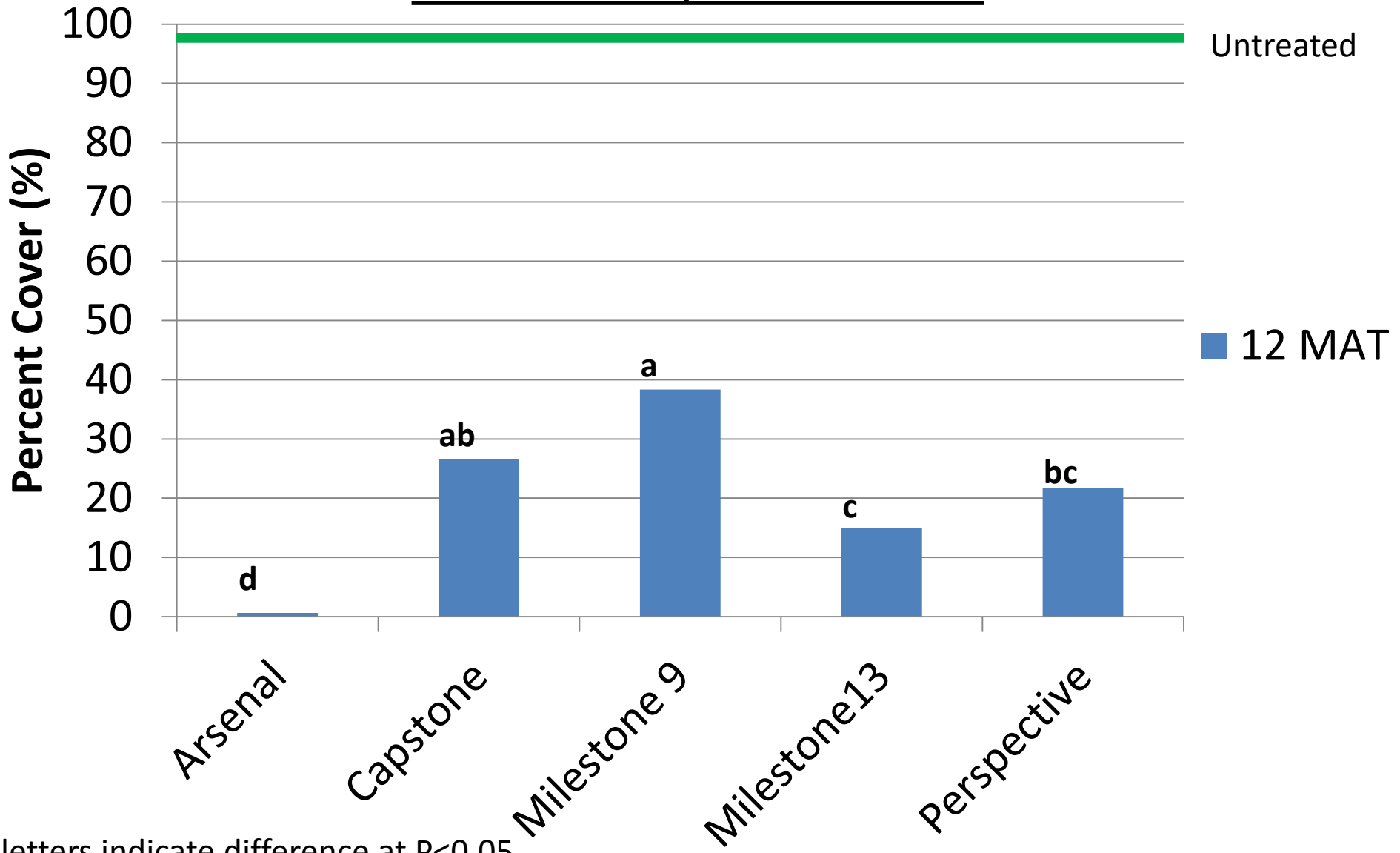
- RCB with 3 reps at McFarland Wisconsin
  - Working with Dane County Parks
  - Plots 20 ft long by 10 ft wide
- Mowing
  - Entire area plot on May 28 (plants 3 ft tall)
  - Mowed fall treated plots again June 25 (plants 3 ft tall)
- Herbicide applications
  - Applied July 13 (summer) or September 12 (Fall)
  - 20 gallons per acre
  - Plants 1.5-2.0 ft tall

2012 Herbicides Evaluated

Herbicide	Broadcast Rate	Active ingredient	Selectivity
Arsenal (Habitat)	5.25 pt/A (3%)	Imazapyr	Not selective (residual)
Capstone	1.3 gal/A (6.5%)	Triclopyr + aminopyralid	Safe to established grasses (residual)
Perspective	6 oz/A	Aminocyclopyrachlor + chlorsulfuron	Safe to established grasses (residual)
Milestone 9 & 13	10 or 14 fl oz/A (spot) (0.4 or 0.5%)	Aminopyralid	Safe to established grasses (residual)

Japanese Knotweed cover Sprayed in July

McFarland, WI 12MAT



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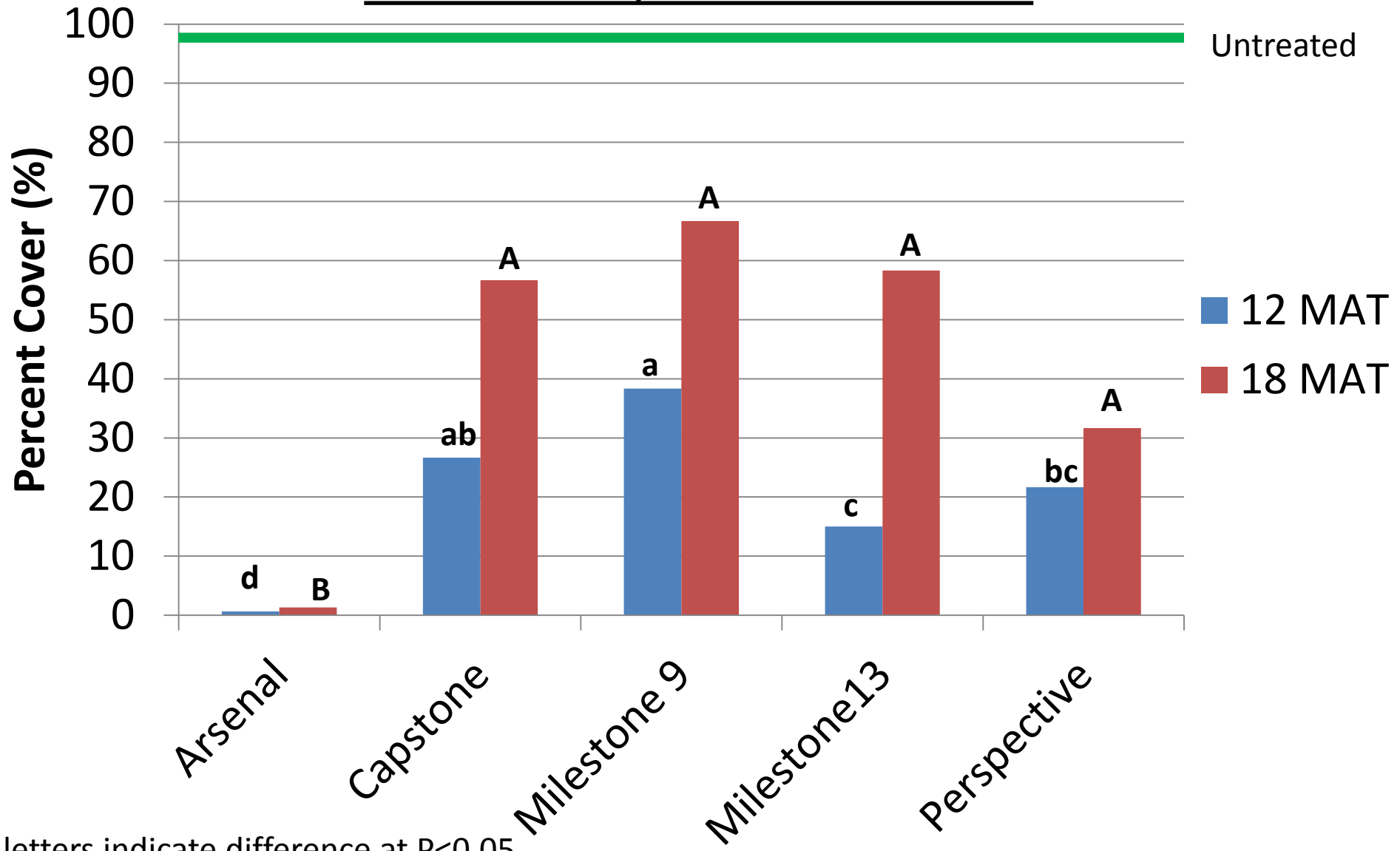
Japanese Knotweed cover Sprayed in July

McFarland, WI 12-18 MAT



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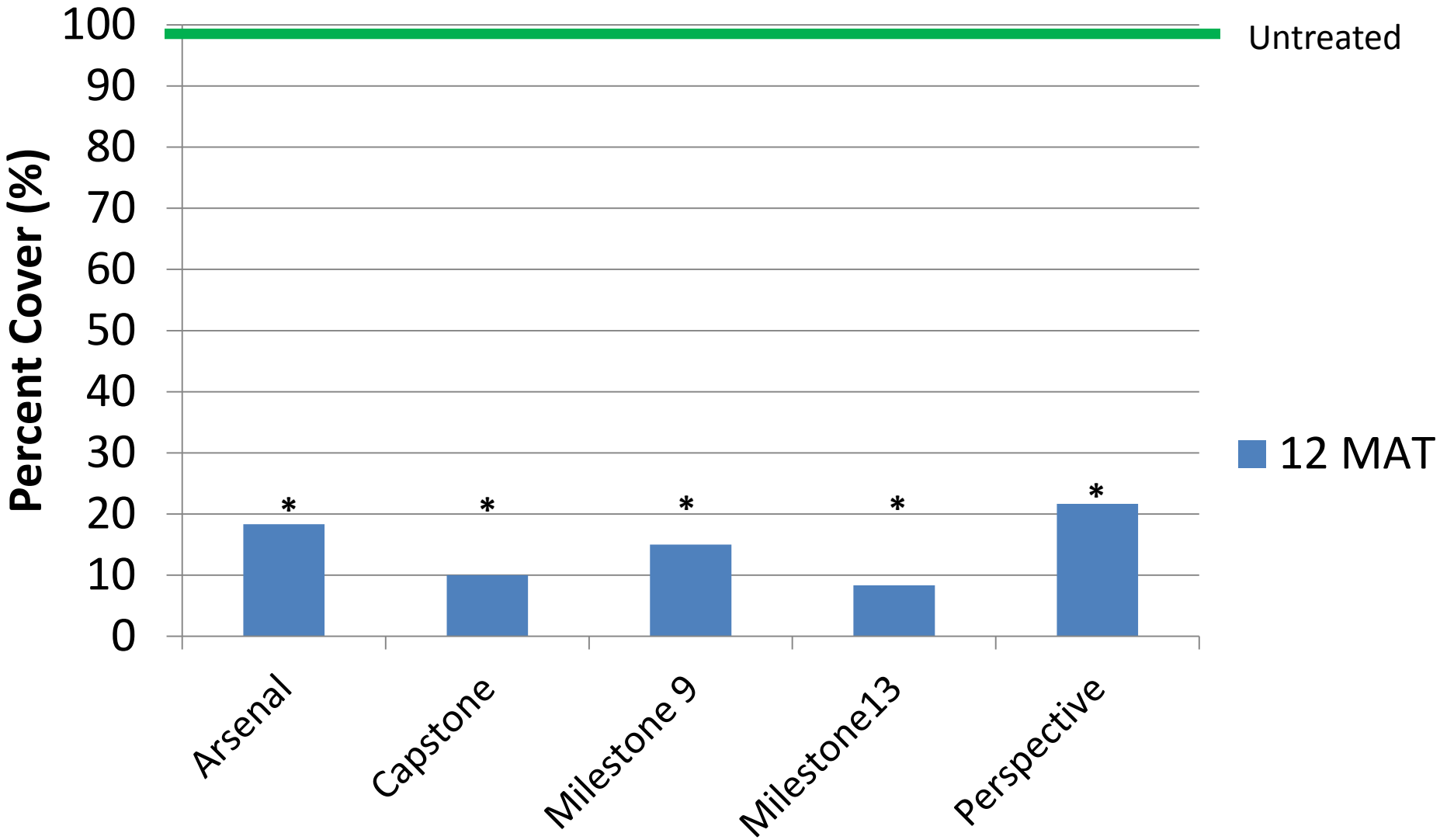
Japanese Knotweed cover Sprayed in Sept

McFarland, WI 12-18 MAT



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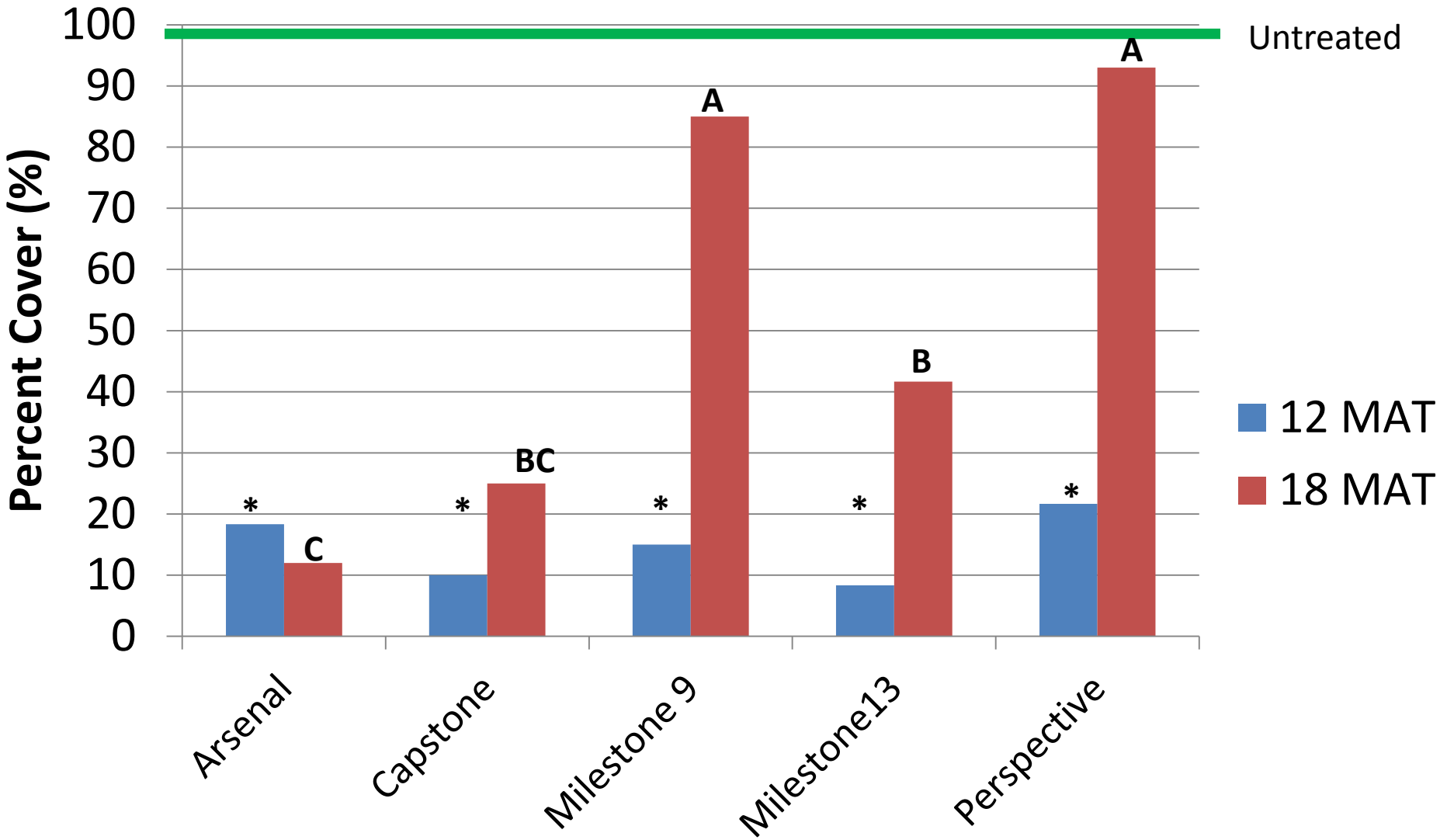
Japanese Knotweed cover Sprayed in Sept

McFarland, WI 12-18 MAT



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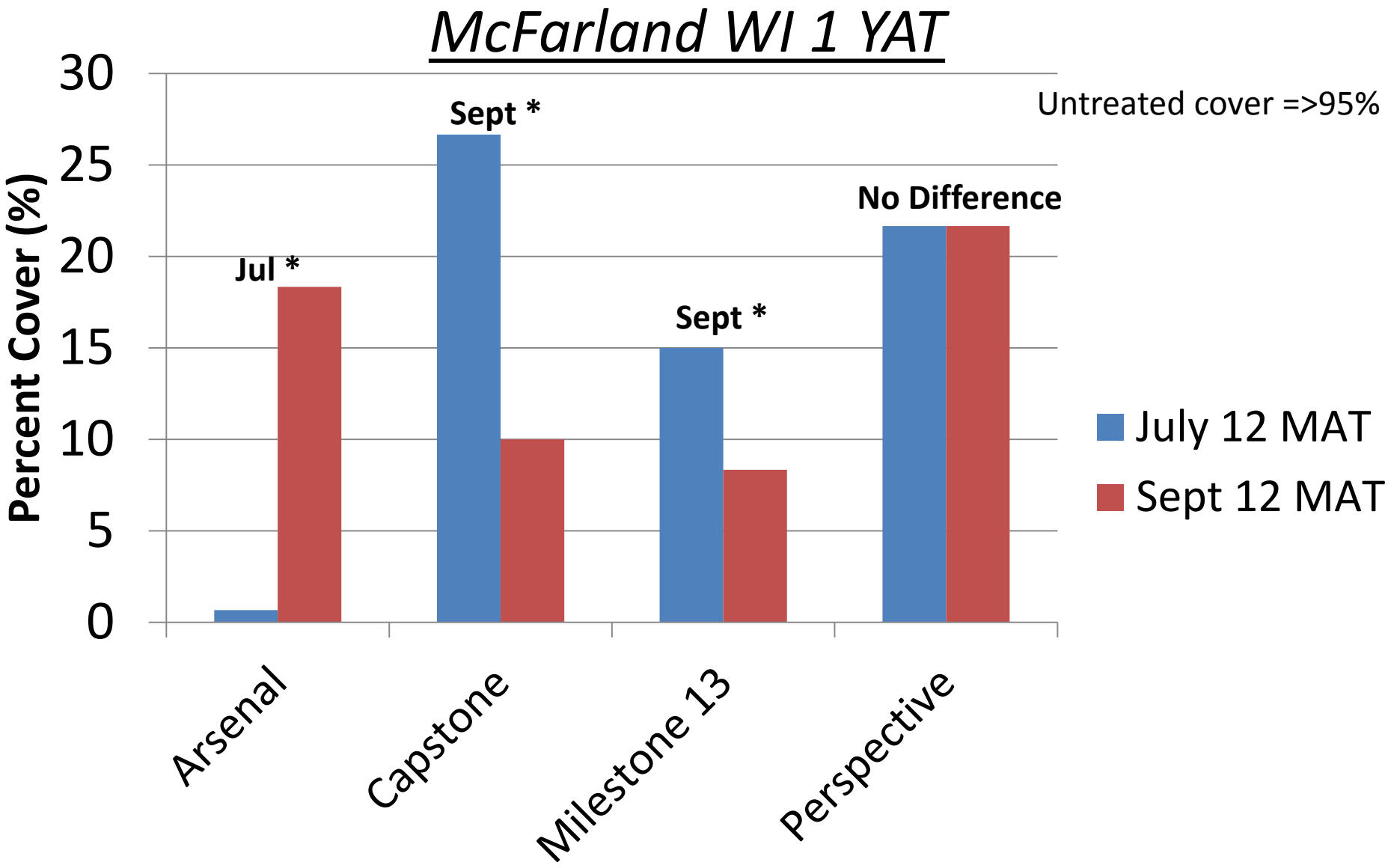
Milestone fall
Arsenal

Should I spray JK summer or fall?



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Summary from 2012 experiments

- What we learned:
  - Milestone and Arsenal (Habitat) most effective herbicides.
  - Response to timing was herbicide specific
    - Arsenal: **July** best
    - Milestone: **September** best
    - Perspective: no difference

- Questions left to answer:
  - Can we mow 1x and treat in fall?
  - What about glyphosate (homeowner situations)?

2013 Site and Methods

- RCB with 4 reps in Sheboygan Wisconsin
  - Working with SEWISC
    - Cody and Steve Klock
  - Plots 20 ft long by 10 ft wide

- Mowed entire area July 23rd
- Applied to resprouts September 15th
  - 20 gallons per acre
  - Plants 2-3 ft tall

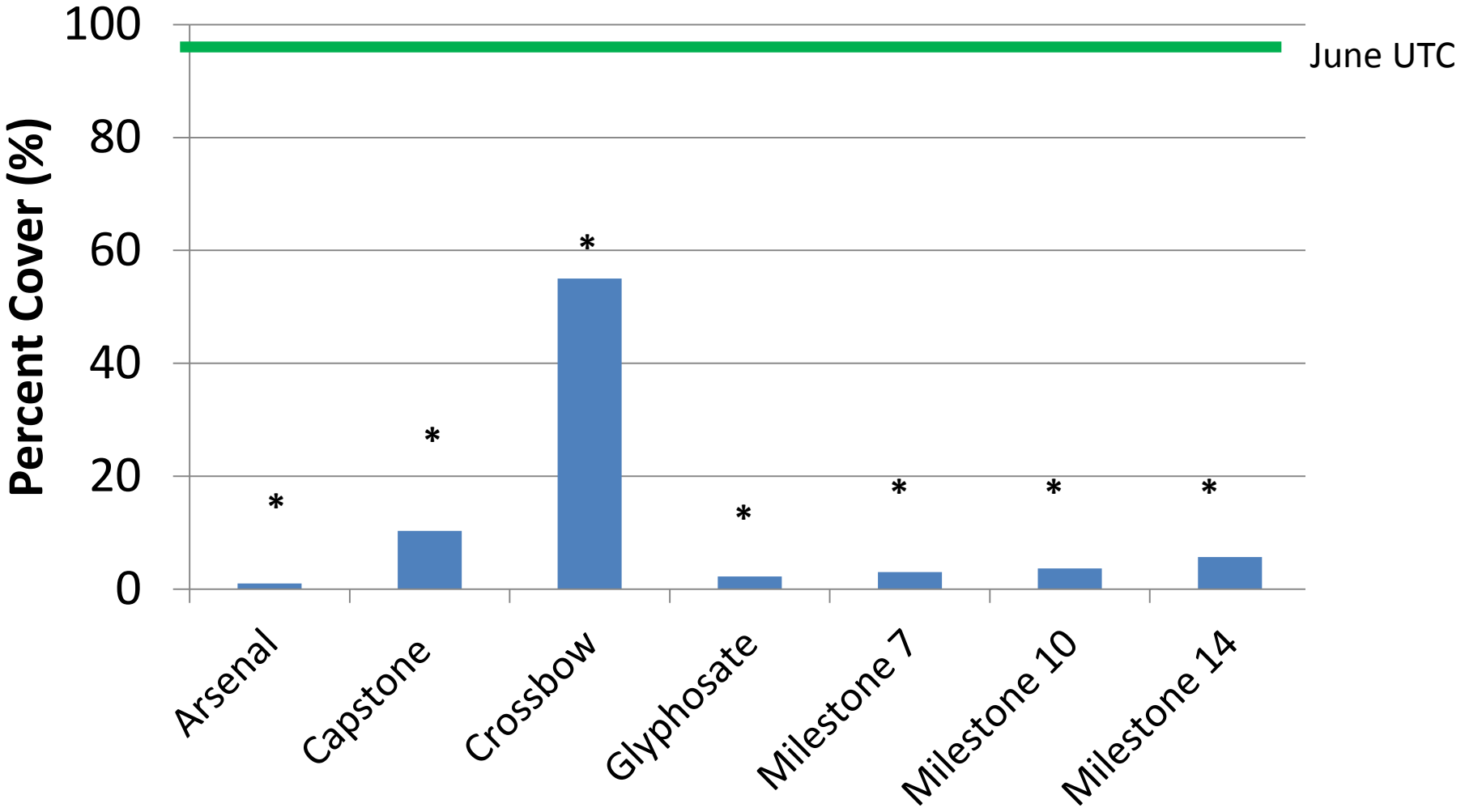
Mowing 1x per year isn’t easy!

Herbicides Evaluated

Herbicide	Broadcast Rate applied	Active ingredient(s)	Selectivity
Arsenal (Habitat)	4 pints/A	Imazapyr	Not selective (extended residual activity)
Capstone	1 gallon/A	Triclopyr + aminopyralid	Safe to established grasses (extended residual activity)
Crossbow	1 gallon/A	2,4-D + triclopyr	Safe to established grasses (limited residual activity)
Rodeo***	8 lbs ae/A (9% solution)	Glyphosate	Not selective (no residual activity)
Milestone 7	7 fl oz/A (broadcast)	Aminopyralid	Safe to established grasses (extended residual activity)
Milestone 10 & 14	10 & 14 fl oz/A (spot only)	Aminopyralid	Safe to established grasses (extended residual activity)

J. Knotweed Cover spray Sept.

Sheboygan, WI 9 MAT



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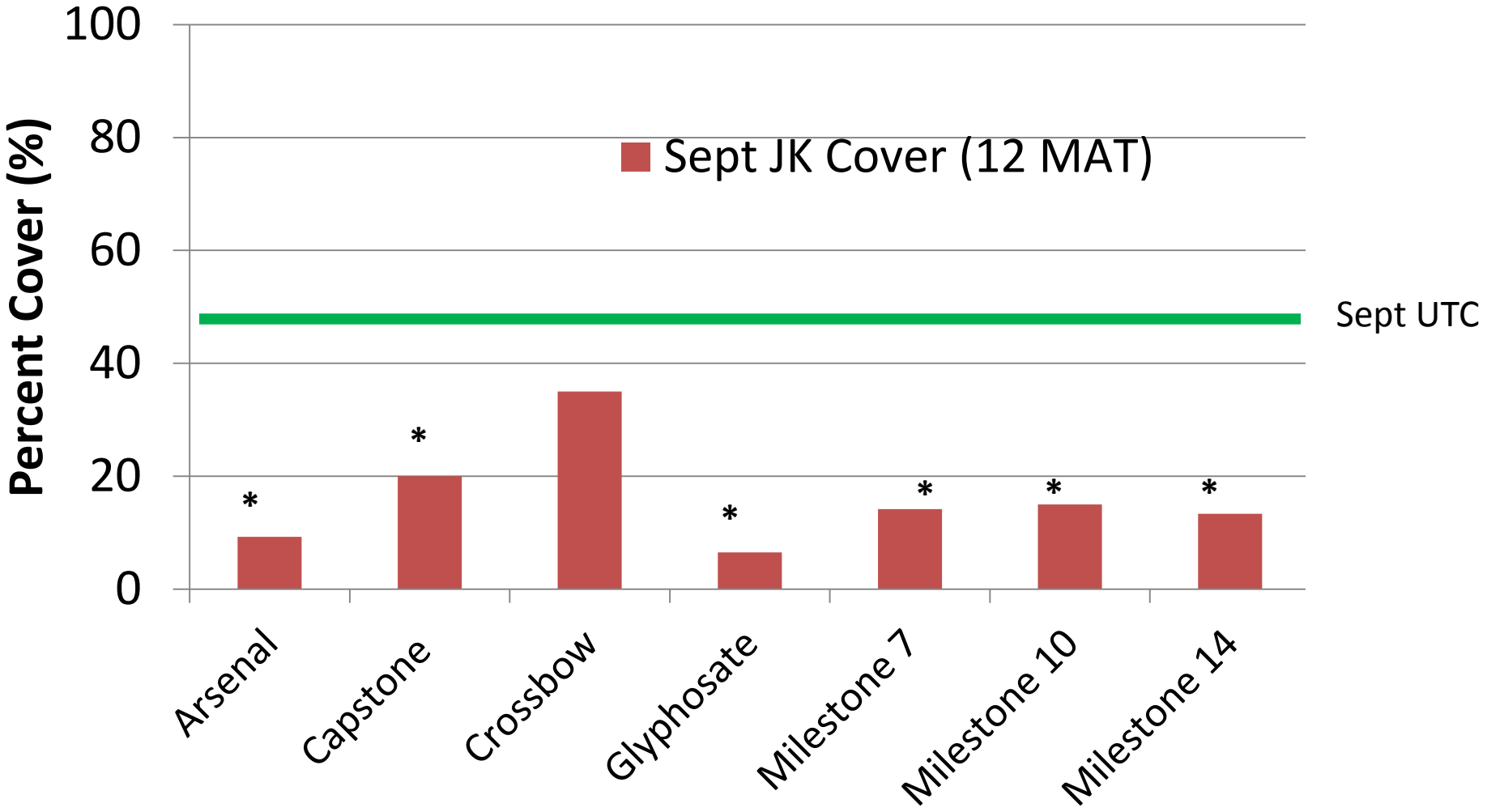
Milestone 10 fl oz/A
Crossbow
UTC


Capstone
Arsenal

J. Knotweed Cover spray Sept.

Sheboygan, WI 12 MAT



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Treated plots again this fall!

- SEWISC mowed in July
  - Thanks Steve/Cody!
- Resprouted to 1-2 feet tall
- Broadcasted milestone at 14 fl oz/A in September

- Will be able to evaluate effectiveness of consecutive year treatments!
  - Does level of control in year 1 matter?
  - What is vegetation response?

Summary from 2013 experiments

- What we learned:
  - Milestone, Arsenal (Habitat), and glyphosate effective in fall.
  - Mowing JK once will work with these herbicides

- Questions left to answer:
  - Do we need to mow?
  - Do we get better control when mowing 1x or 2x?
  - Does herbicide volume alter control if we don't mow?

Conclusions

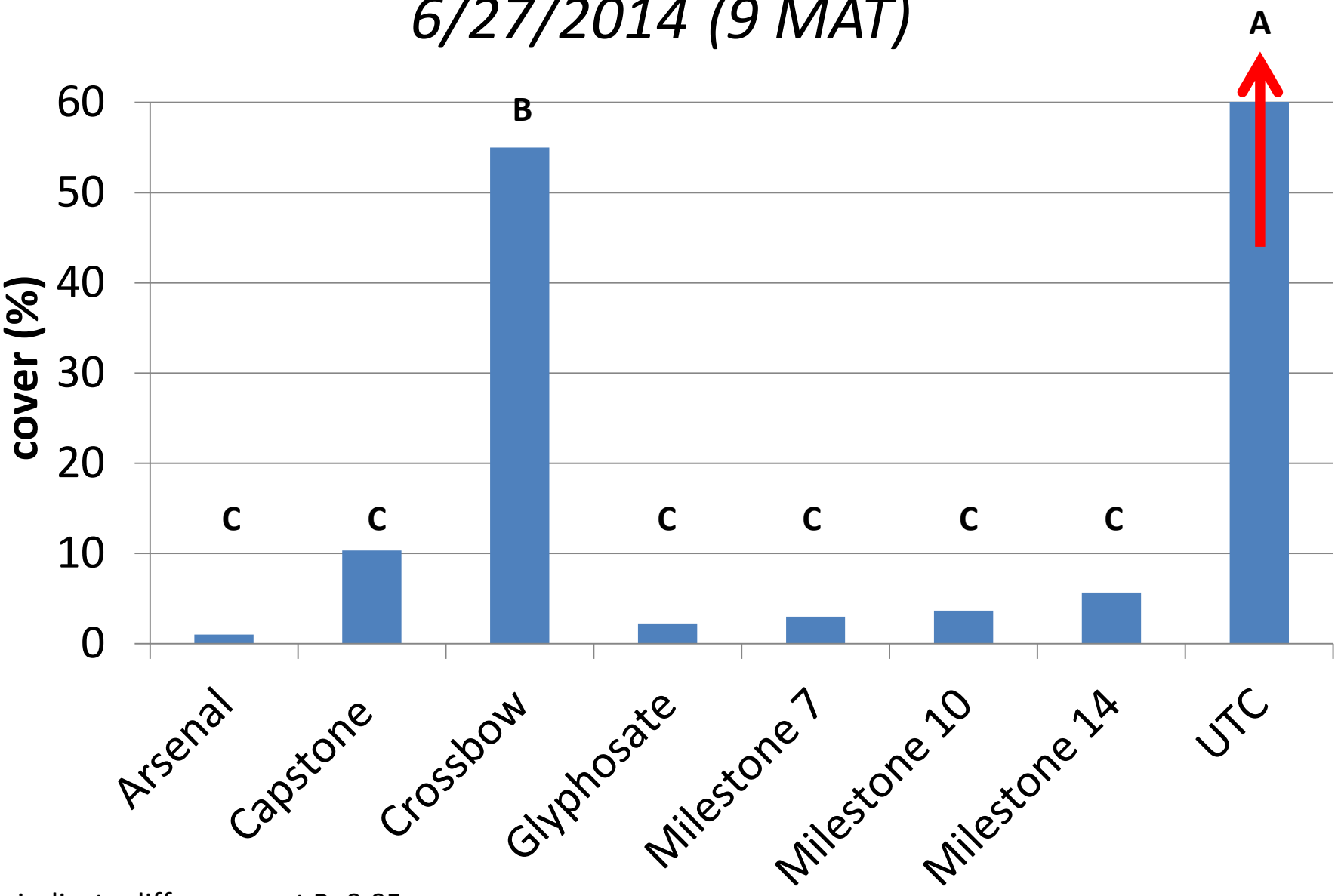
- Knotweed can be suppressed, but need to follow-up control after 1 yr.
  - Range of herbicides that are effective
- Herbicide selection based on
  - Species present
  - Type of site

Thanks to the following

- Dow Agrosciences
  - Mary Halstvedt
  - Lou Ann Brooks
- SEWISC
  - Cody and Steve
- Staff
  - Brendon Panke
  - John Albright
  - Tony Summers
  - Students

June Japanese Knotweed Cover

6/27/2014 (9 MAT)



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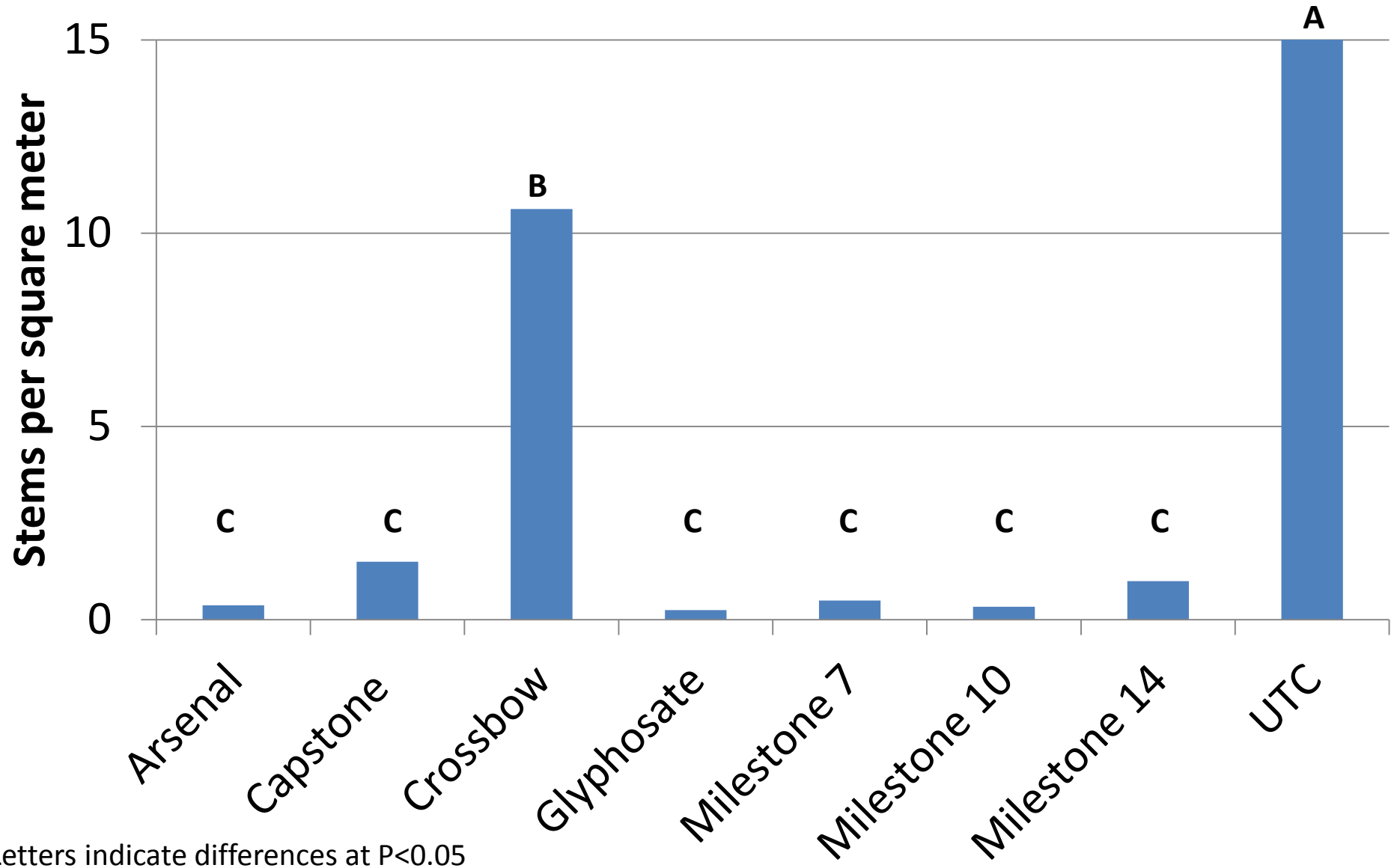
June J. Knotweed Stem Density

6/27/14 (9 MAT)



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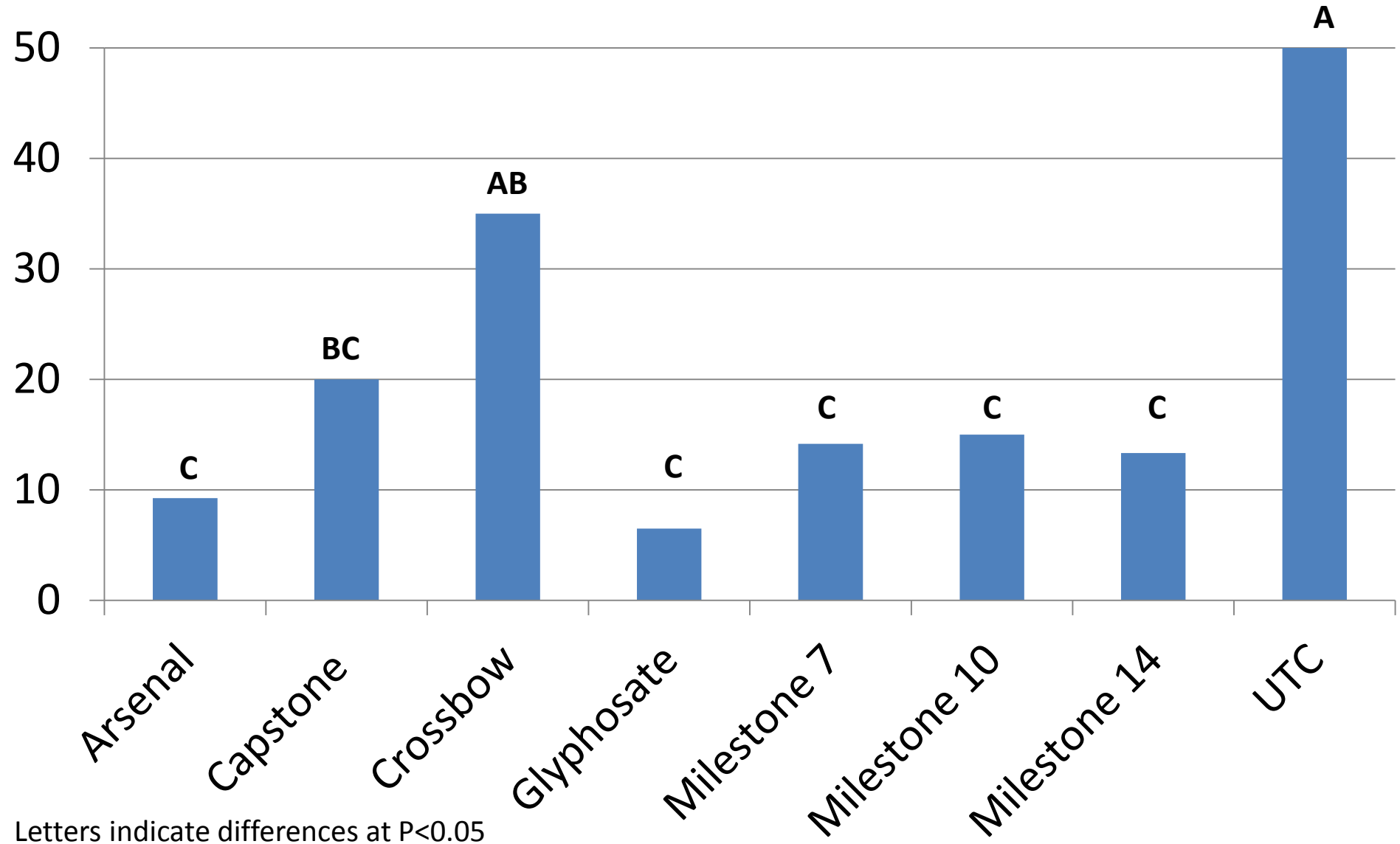
September J. Knotweed Cover

9/24/14 (12 MAT)



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