Poa annua Control Herbicide Research Update

II. *Poa annua* control in bentgrass greens

Northwest Turfgrass Conference
September 27, 2011

William Johnston and Charles Golob

Washington State University

Methiozolin

South Korea

Moghu Research Center

Resistered for turf in April 2010 – **PoaCure**

Formulation

2.06 lb ai/gal EC

Also, working on a granular formulation for turf since 2009

Methiozolin

- **Moghu Research Center, South Korea**
- **Isoxazoline herbicide**
- **Initial research was in rice**
- **Active on grass species**
  - **_Poa annua_ f. _annua_**
  - **_Poa annua_ f. _reptans_**
  - **Junglerice/barnyardgrass, crabgrass, goosegrass**

- **Pre-emergence activity (Moghu's MSDS)**
- **Post-emergence with some pre-emergence?**

  (Walker, AU, personal communication, 2011)
- **Mode of action: inhibits cell wall biosynthesis**
- **Product cost: Expensive**
- **PoaCure labeled in 2010 in S. Korea; *Poa annua* control in creeping bentgrass greens and perennial ryegrass and Kentucky bluegrass fairways**

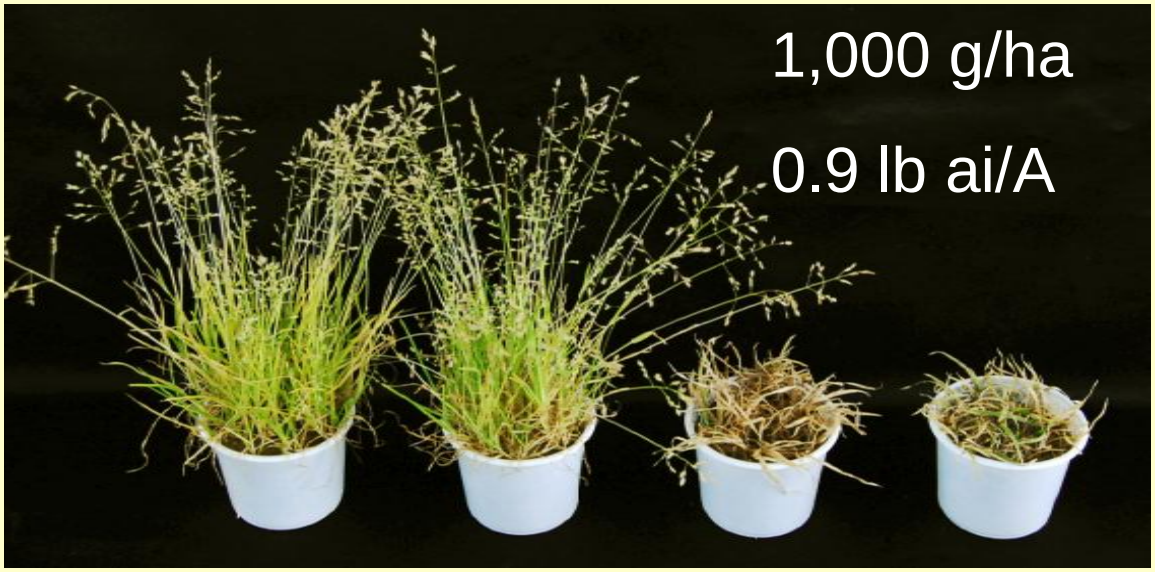
Moghu working on Japan and USA registration

USA plan:

- **Plan to submit to USA EPA in 2012**
- **USA launch late 2013 or early 2014**
- **Met with EPA July 2010 and may petition for EUP prior to registration**

(Walker and Belcher, Auburn, Univ.)

Primarily root/crown/stem uptake



(Walker and Belcher, Auburn, Univ.)

Auburn Univ. Research Suggests

- **1. Do not add surfactant**
- **2. Can apply to wet turf**
- **3. Light irrigation after application**
  - **Limits foliar uptake**
  - **More available for root uptake**
- **4. Implications for granular formulation**

(Walker and Belcher, Auburn, Univ.)

USA research began Spring 2009

Auburn and Virginia Tech

Control, tolerance, rates, frequency, timing

UC-Riverside began Fall 2009(?)

Georgia 2010(?)

WSU Research began Fall 2010

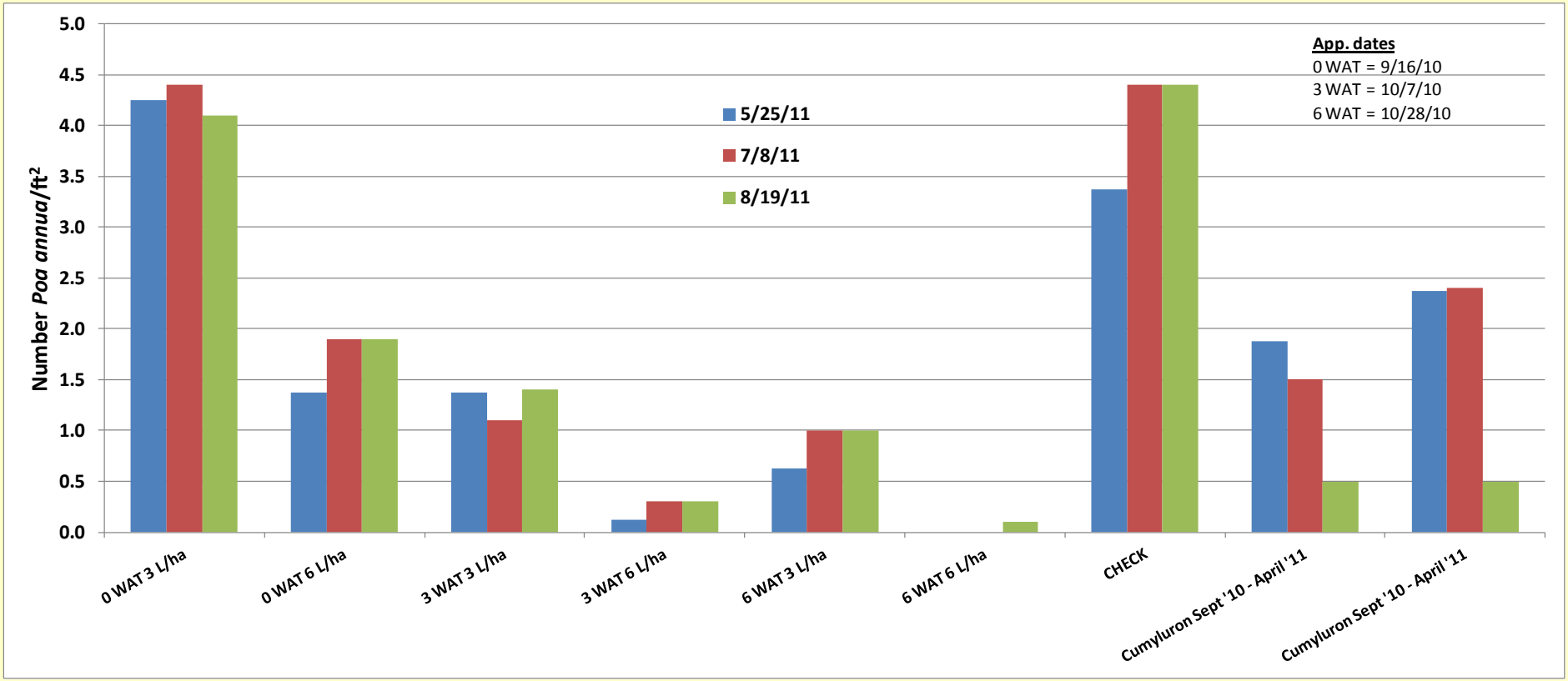
By 2011: SC, NC, GA, TN, TX, OK, AZ, CA, NJ, MI, PA, VA, WA

WSU Fall 2010

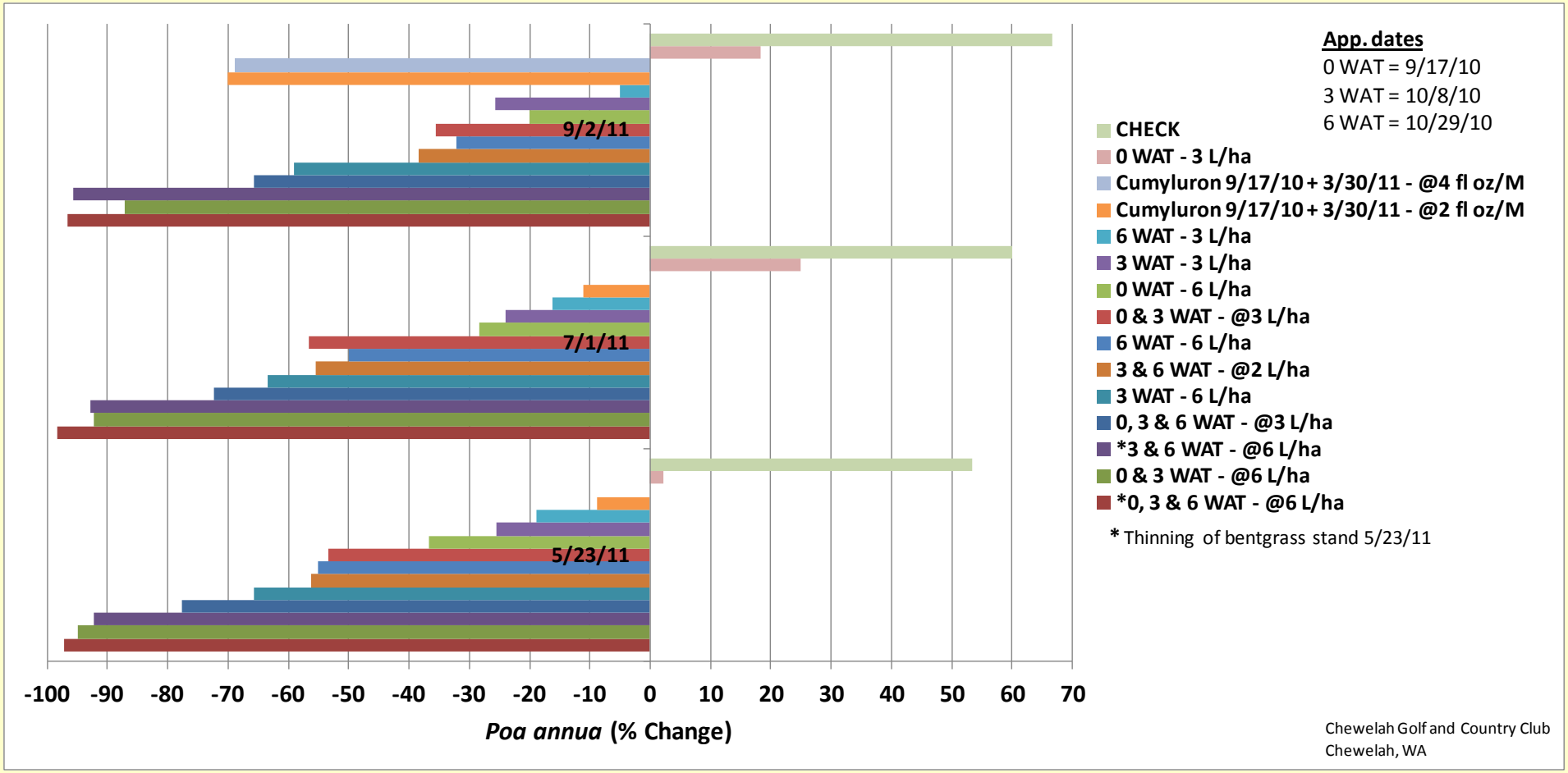
- **2 locations**
  - **Palouse Ridge Golf Club**
    - **New ‘T-1’ green**
    - **Approx. 2-3% *Poa annua***
  - **Chewelah Golf & County Club**
    - **Older ‘Penncross’(?) nursery green**
    - **Approx. 25-30% *Poa annua***

- **Fall 2010 applications**
  - **Rates**
    - **3 and 6 L/ha**

      (0.66 # ai/A and 1.32 # ai/A)
  - **Frequency**
    - **Single applications**
    - **Multiple applications every 3 weeks**



Palouse Ridge Golf Club # 9 green
Single applications: Sept. 16, Oct. 7, or Oct. 28, 2010
Poa annua counts (#/sq ft): May 25, July 8, and Aug. 19, 2011



Chewelah Golf and Country Club
Single and multiple apps.: Sept.17, Oct. 8, and Oct. 29, 2010
Rating (% change): May 23, July 1, and Sept. 2, 2011


Chewelah Golf and Country Club
Chewelah, WA
5/23/11
1.3% Poa
-94.9
Methiozolin 6 L/ha
App. 9/17 – 10/8/10


Chewelah Golf and Country Club
Chewelah, WA
5/23/11
31.7% Poa
+53.3
CHECK

Conclusions

- **AU, Methiozolin has excellent potential for selective control of *Poa annua* in bentgrass putting greens** **WSU, agree**
- **AU, Fall/dormant season best timing** **WSU, best(?), but it works**
- **AU, Spring will work, but not enough time to fill *Poa* voids before hot weather (Southern Region)** **WSU, don't know, a focus for 2012**

(AU conclusions: Walker and Belcher, Auburn, Univ.)

2011-2012 Research

Fall 2011

Low *Poa annua* infestation at Palouse Ridge GC

* Repeat 2011; single apps. at PRGC #3 green
* 2nd year of single apps. over the top at PRGC #9 green
* 3 apps. on collar at PRGC #18 green
* 2 apps. at PRGC #18 green (Whole green demonstration)

20-30% *Poa annua* infestation at Chewelah G&CC

* Repeat 2011 multiple apps. at Chewelah nursery green

50% *Poa annua* infestation at Colfax GC

* Multiple apps. at Colfax practice green

Spring 2012

Locate additional sites for testing