



Broadstar and SureGuard

What We *Think* We
Know About Two New
Herbicides

New active ingredient – flumioxazin

- ✦ Same mode of action as Oxyfluorfen (Goal)
- ✦ PRE control of many broadleaf weeds and some grasses
- ✦ Applied as a spray (Sureguard) – early POST and PRE control of many seedling broadleaf weeds
- ✦ Applied as a granule (Broadstar) – limited POST activity but good PRE control of many weeds

What do we need to know?

✦ Crop Safety



✦ Weed Control



*Cool-season weeds
controlled by
Broadstar*



J. Neal



*Summer weeds
Controlled by
Broadstar &
Sureguard*



Comparison of PRE herbicides

Herbicide	Ann. Grass	Bitter-cress	Chick weed	Pearl wort	Spurge	Dove weed	Phyl-lanthus
OH2	G	G	G	F	G	F	F-G
Rout	G	G	G	F	G	F	F-G
Snapshot	G	F	G	G	F – G	P	P
Broadstar	F	G	F-G	P	G	G	G
Showcase	G	G	G	G	G	F	F-G

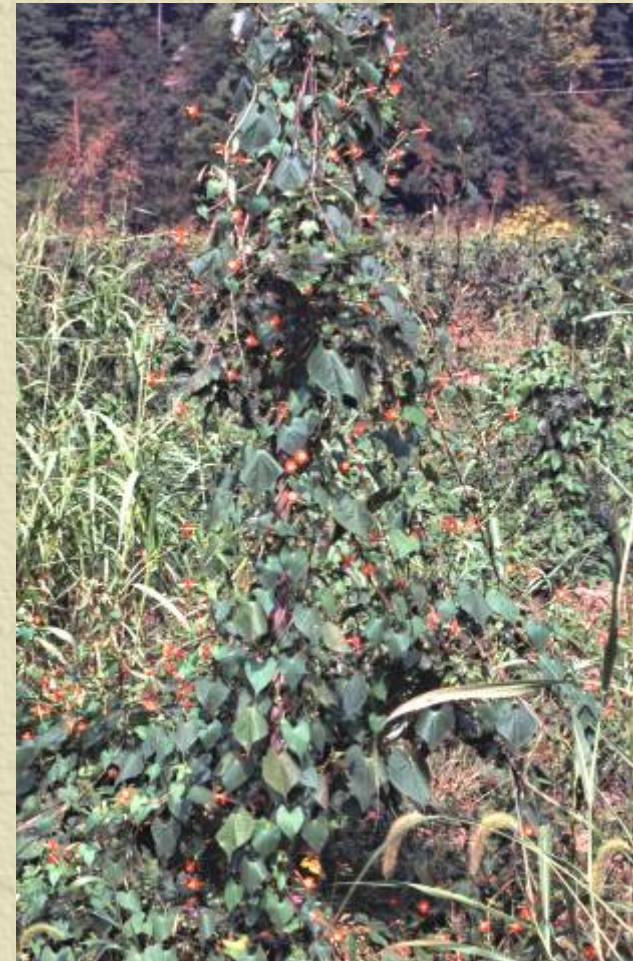
Sureguard in Field Nurseries

– Few mysteries –

- ✦ Good PRE control of broadleaf weeds but tank mix to improved annual grass control
- ✦ Conifers and shade trees are generally tolerant
- ✦ Tank mixing with glyphosate may increase conifer injury over either product applied alone
- ✦ No over the top sprays to broadleaf ornamentals
- ✦ Even dormant OT sprays delayed bud break on
 - Holly, weigela, caryopteris, spirea but not brambles or grapes

Sureguard in Field Nurseries

- ✦ A good replacement for simazine or Goal
- ✦ Controls simazine resistant weeds
- ✦ Perhaps a little better morningglory control



Broadstar Crop Safety in Containers

1st three years of experience



✠ Woody Nursery Crops

- Several trials and location
- similar to OH2, but a bit more injury on some species

✠ Herbaceous Crops

- Injury to several species



Woody nursery crop safety 99-01

Crop species	Broadstar	OHII
<i>Cotoneaster horizontalis</i>	Safe	Safe
<i>Hydrangea</i> x 'Nikko Blue'	Injured	Safe
<i>Ilex</i> several species	Safe	Safe
<i>Ligustrum japonica</i>	Safe	Safe
<i>Juniperus</i> (several species)	Safe	Safe
<i>Myrica</i>	Safe	Safe
<i>Rhododendron</i> (azaleas)	Safe	Safe
<i>Spirea</i> x 'Little Princess'	Safe	Safe
<i>Spirea</i> x 'Gold Mound'	Injured	Safe
<i>Viburnum tinus</i> & Chindo	Safe	Safe

Flumioxazin does not inhibit azalea root growth



Some Contact injury to moist foliage
– Similar to OH2



Flumioxazin 0.17G



Scotts OH2 3G

Applications to moist foliage can be dramatic for some species



Safety on Herbaceous Crops

Severe injure
to many
herbaceous
perennials



Phytotoxicity similar to OH2 – if the granules get caught in the foliage, injury is likely



2004 & 2005 – Grower reports of injury to:

✦ Wax myrtle

✦ *Ilex verticilata*

✦ Indian hawthorne

✦ *Spirea*

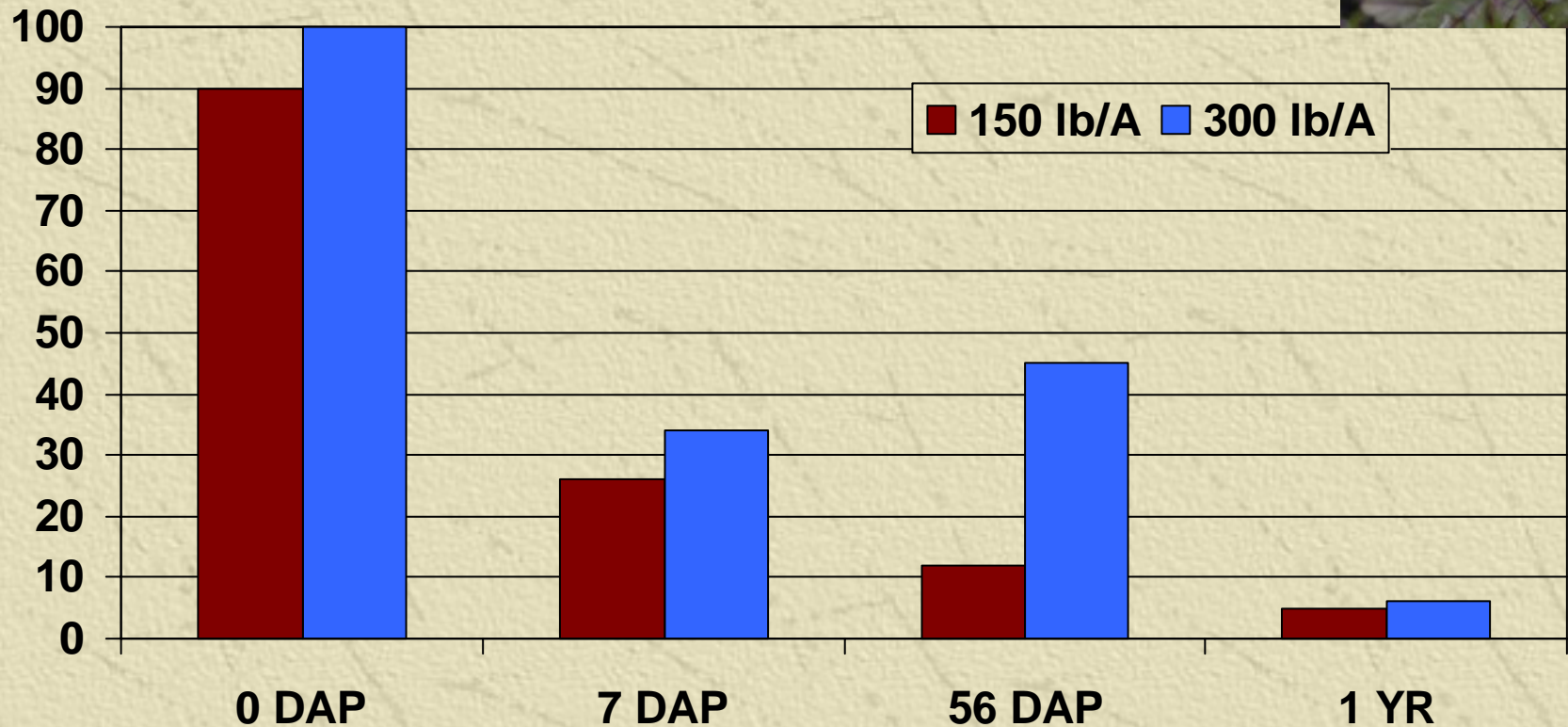
Why???

Recent results



Seedling wax myrtle, gold mound spirea, and variegated privet injured from root uptake?

Wax Myrtle Injury 8 weeks after Broadstar Treatment



Liners were potted in 1-gallon pots and treated 0, 7 or 56 days after potting (DAP). 1-year old plants were potted to 3 gallon pots and treated 0 DAP.

How to injure nursery crops with Broadstar

- ✦ Treat broadleaf plants when the foliage is wet
- ✦ Treat YOUNG newly potted 1-gallon liners
- ✦ Use higher than the labeled rate

Some very opinionated advice on how to use Broadstar

- ✦ 1-gallon and up conifers
- ✦ 3-gallon and up woody nursery crops
- ✦ Summer weeds are well controlled
- ✦ If you have pearlwort or *Poa annua* --
winter weed control will probably
benefit from the addition of a
dinitroaniline

Sureguard in container nurseries?

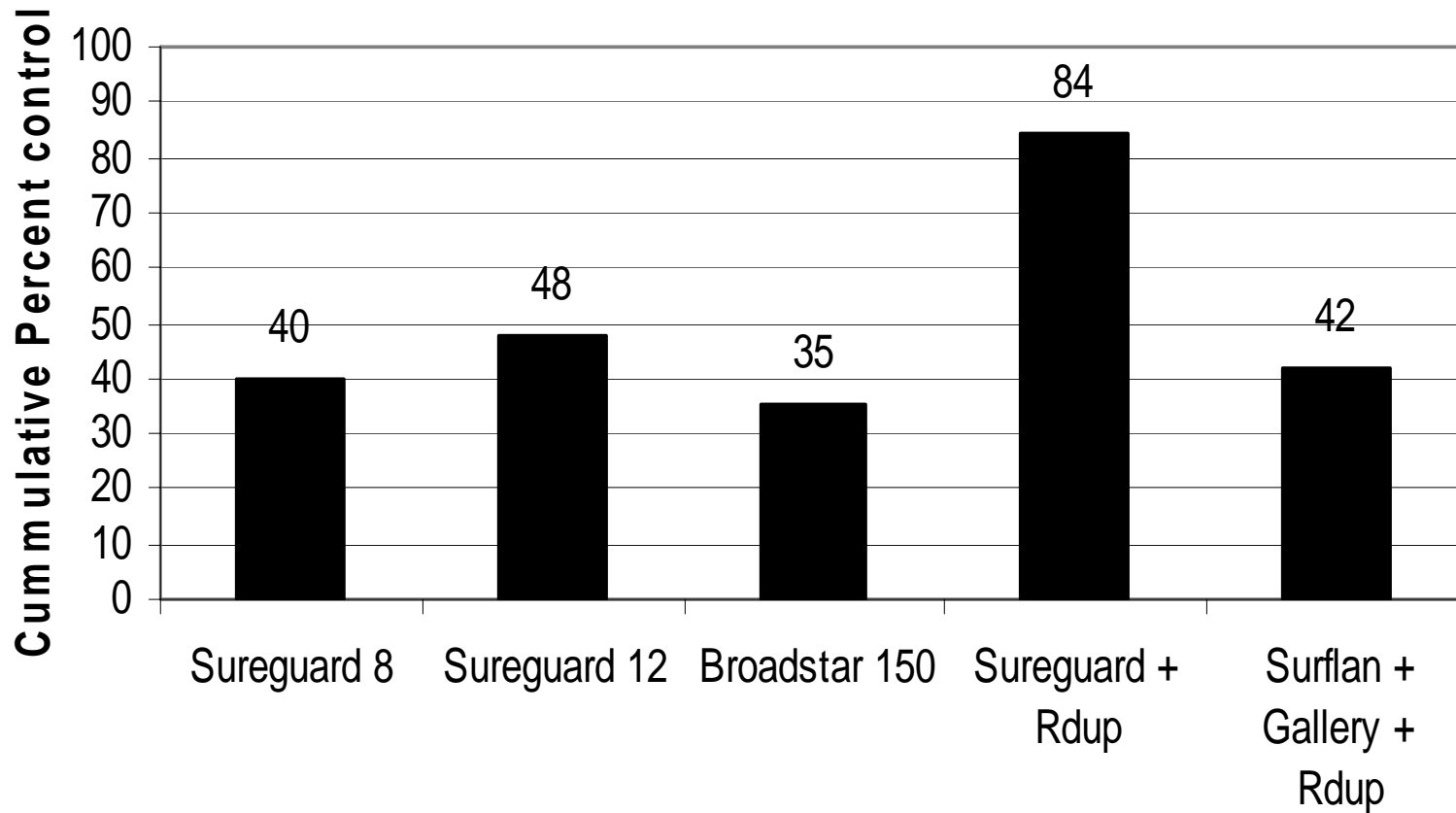
✦ Not in the crops

– Possible exception – conifers (preferably, dormant)

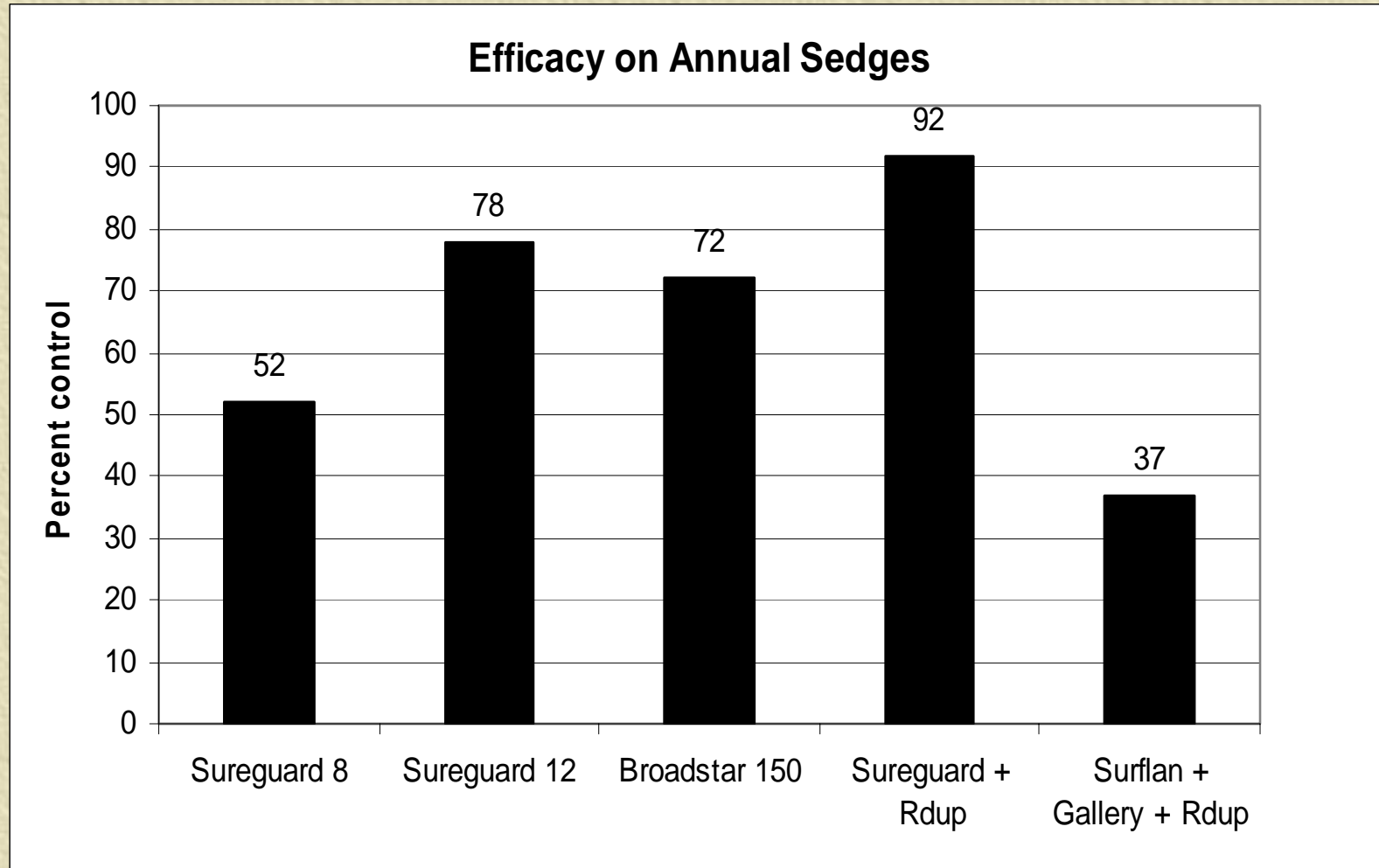
✦ Controlling weeds in gravel areas around production pads



Overall Efficacy of treatments on weeds (based on percent bare ground area in plots)



8 weeks after treating gravel area



When you use a new herbicide

- ✦ Start small – don't treat the whole nursery
- ✦ Start with plants of known safety
- ✦ Run some on-site trials to be sure it is safe on your crops before treating large blocks