Organic weed control in cranberries

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WSU

“Organic Weed Control”

- Manuka oil @ 8,16, 32 and 64 oz/ac on lotus with 2 surfactants
  - Higher rates were OK, but Lotus will grow out of treatment effects relatively quickly. Frequent re-treatment needed
  - Surfactant emulsion problem, make sure that you have an emulsion before spraying.
  - Stuff is expensive
  - Mgiht work on young weeds.

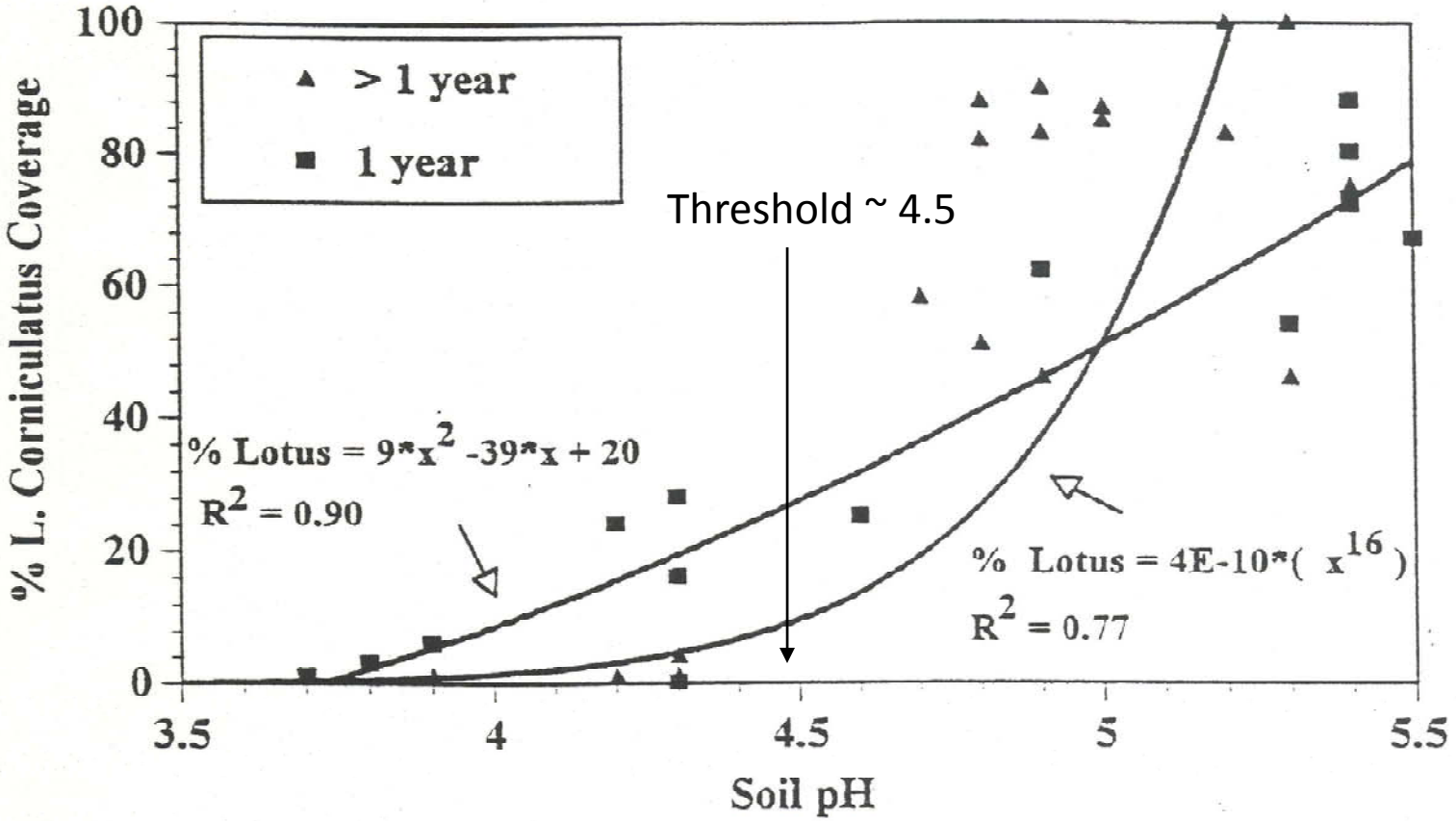
“Organic Weed Control”

- Soil pH/ elemental Sulfur
  - Long-term studies in 1992-1994 with multiple application of elemental sulfur (~200 #/ac/ application) to reduce soil pH below where Lotus thrives.
  - See following figure.

Concerns with using soil sulfur

- Hydrogen sulfide generate if wet condition
  - Toxic to cranberry roots
  - Best timing to avoid H2S
    - Low rates (100-200 lbs) elemental sulfur (organic label)
    - Frequent applications (4-6weeks) until ph drops
    - Wait until beds are well drained, avoid wet spots
- May take 1-2 years for weed control,
- both granular and spray S work
  - Make sure the granular is readily dissolvable
  - Spray S is fast acting and work well
- Likely to work best on upland weeds

Elemental sulfur for Lotus control



Level of weed coverage as a function of soil pH modification with sulfur treatments

Summary – three years of vinegar experiment

- **Timing – late April**
- **Rate – 4 to 5% acetic acid**
- **Volume – 7500 gpa**
- **Washoff- 2500 gpa**
- **Inconsistent effects occurred on highly saturated and poorly drained peat or muck soils.**
- **Most consistent efficacy occurred on sandy well drained soils.**

Vinegar for False lily-of-the-valley control
Best treatments of several experiments

Date of treatment	% Acetic acid	Application volume (gpa)	Washoff Volume (gpa x10^3)	Lily (% control)	Vine damage rating*
3/25/04	3	8000	2500	97	2
3/23/05	4	5000	2500	89	2.1
4/20/05	4	6000	2500	97	3.3

***1=none, 5=dead**

2006 Treatments – 3,4 & 5 % acetic acid @ 7500 gpa; 5% @ 5000 gpa, all with 2500 gpa washoff (late March/early April).

False lily-of-the-valley control and cranberry vine damage

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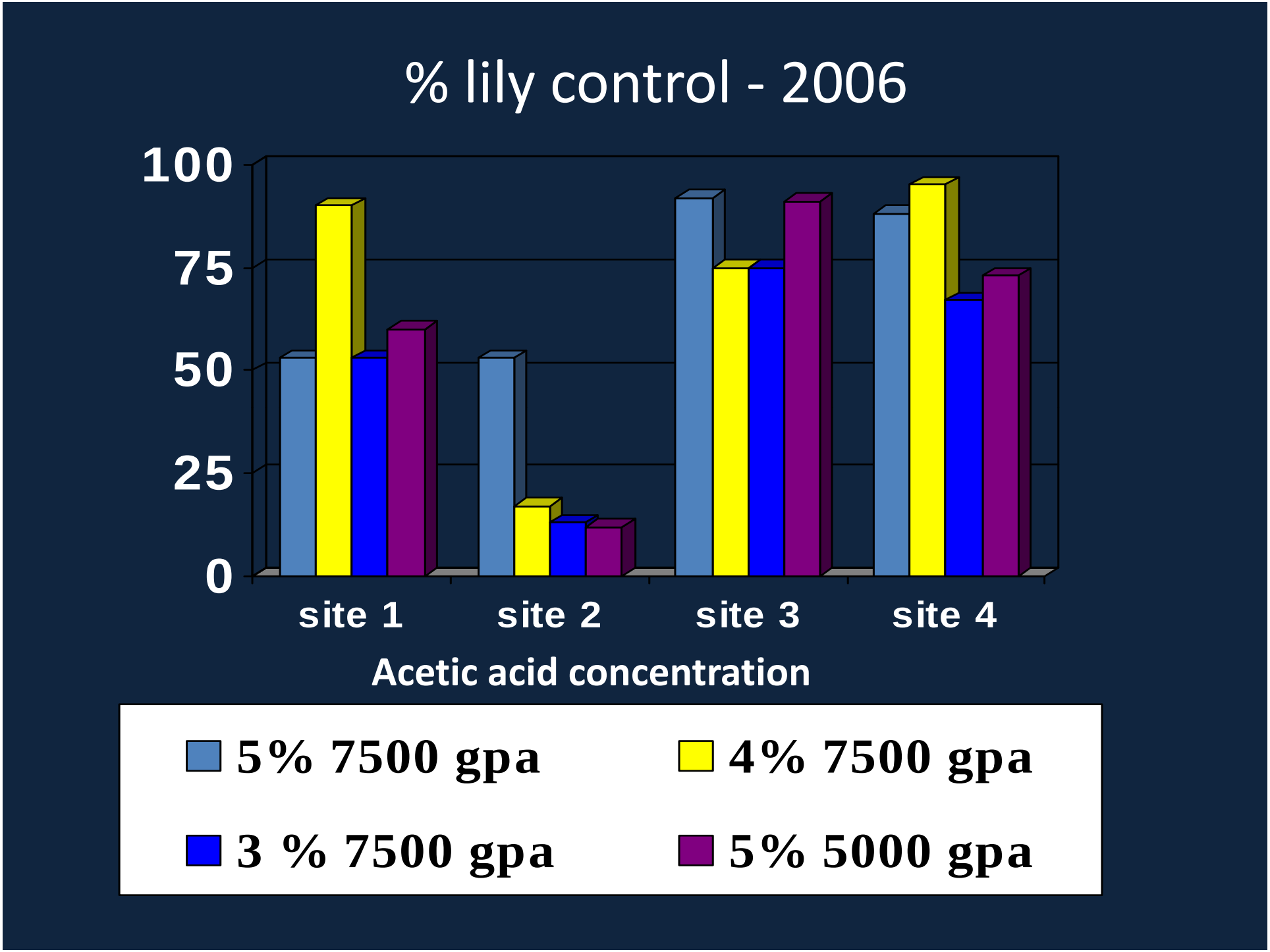
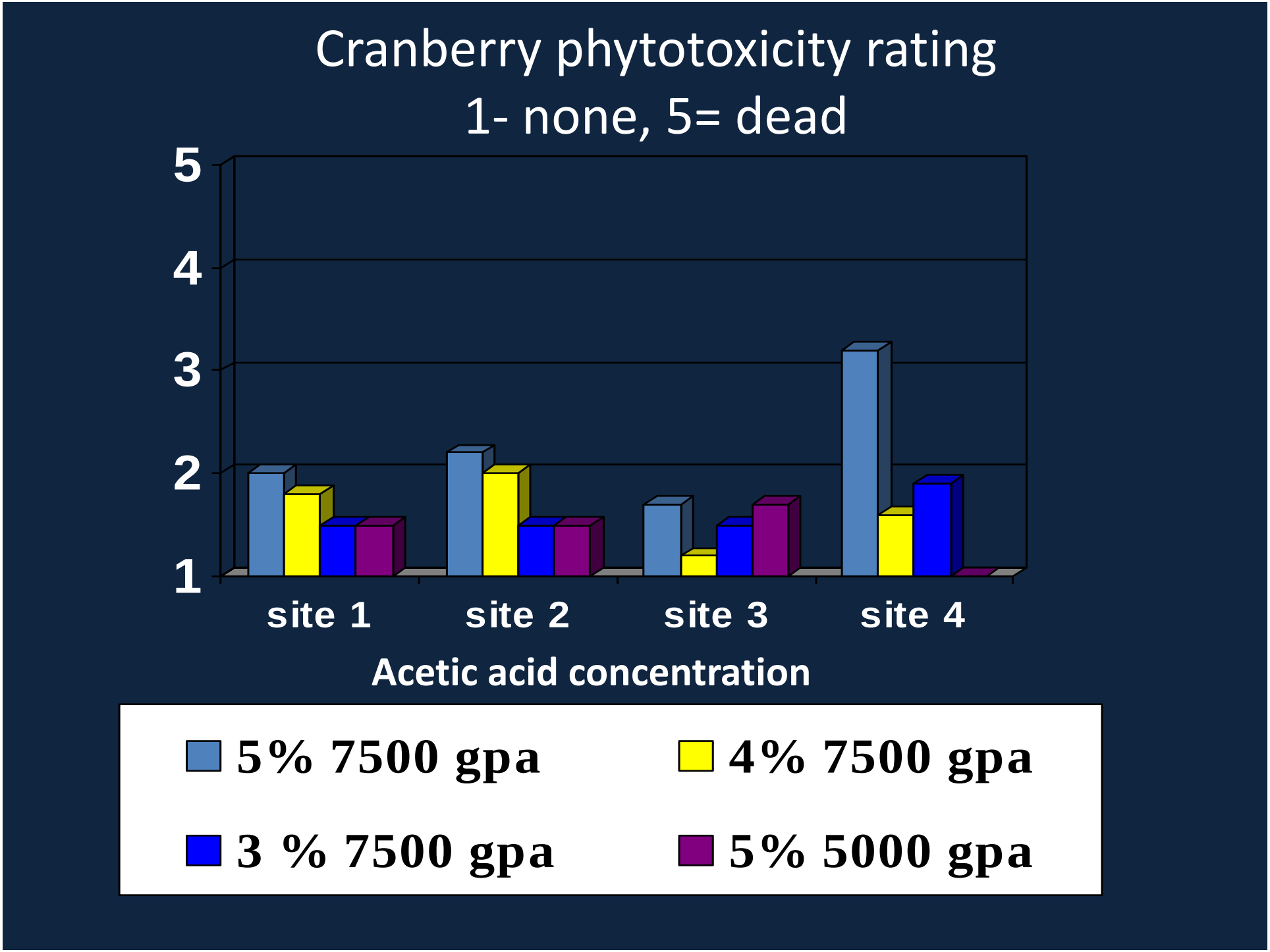

% lily control - 2006
100
75
50
25
0
site 1
site 2
site 3
site 4
Acetic acid concentration
5% 7500 gpa
4% 7500 gpa
3 % 7500 gpa
5% 5000 gpa


Cranberry phytotoxicity rating
1- none, 5= dead
5
4
3
2
1
site 1
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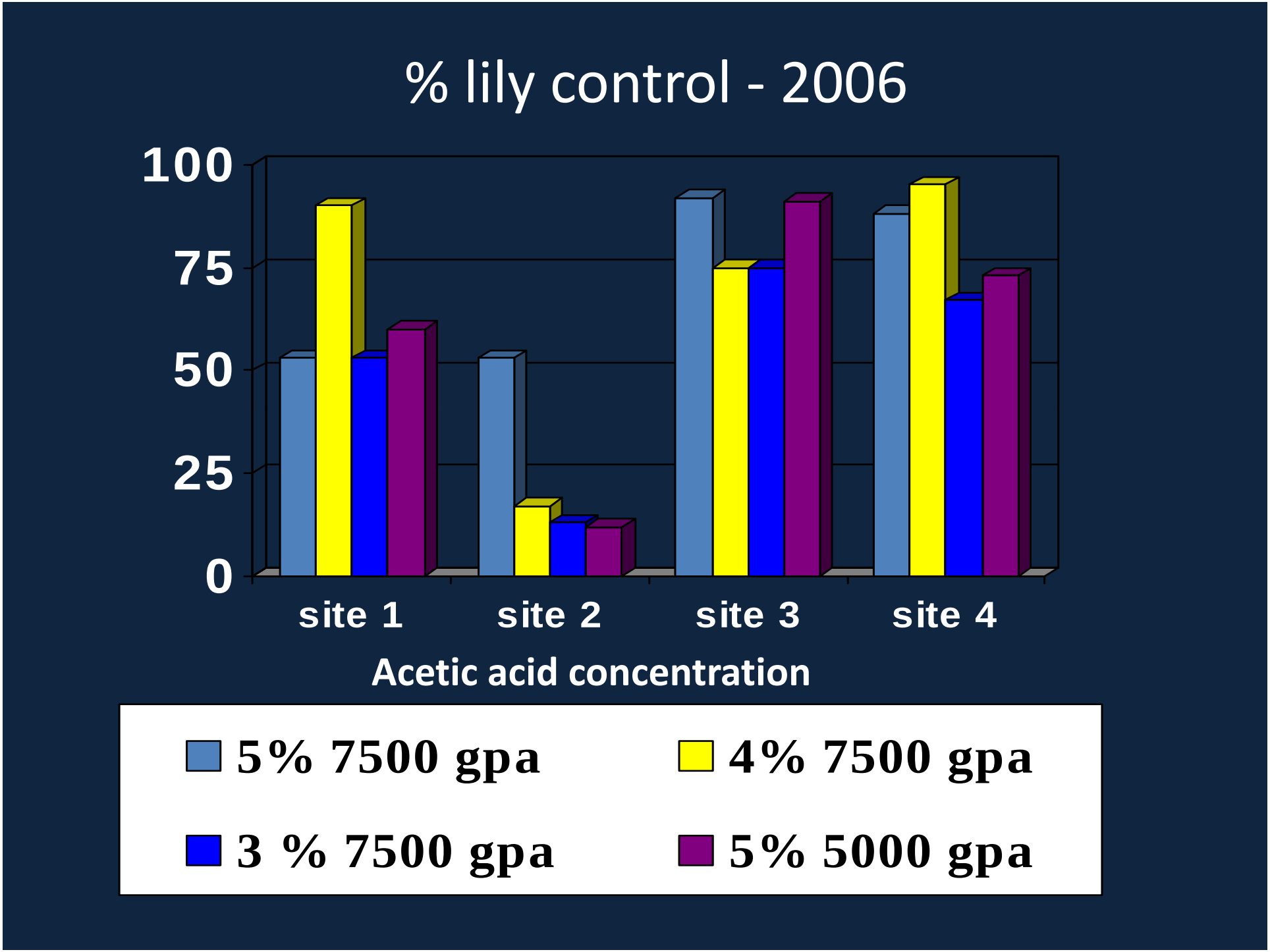
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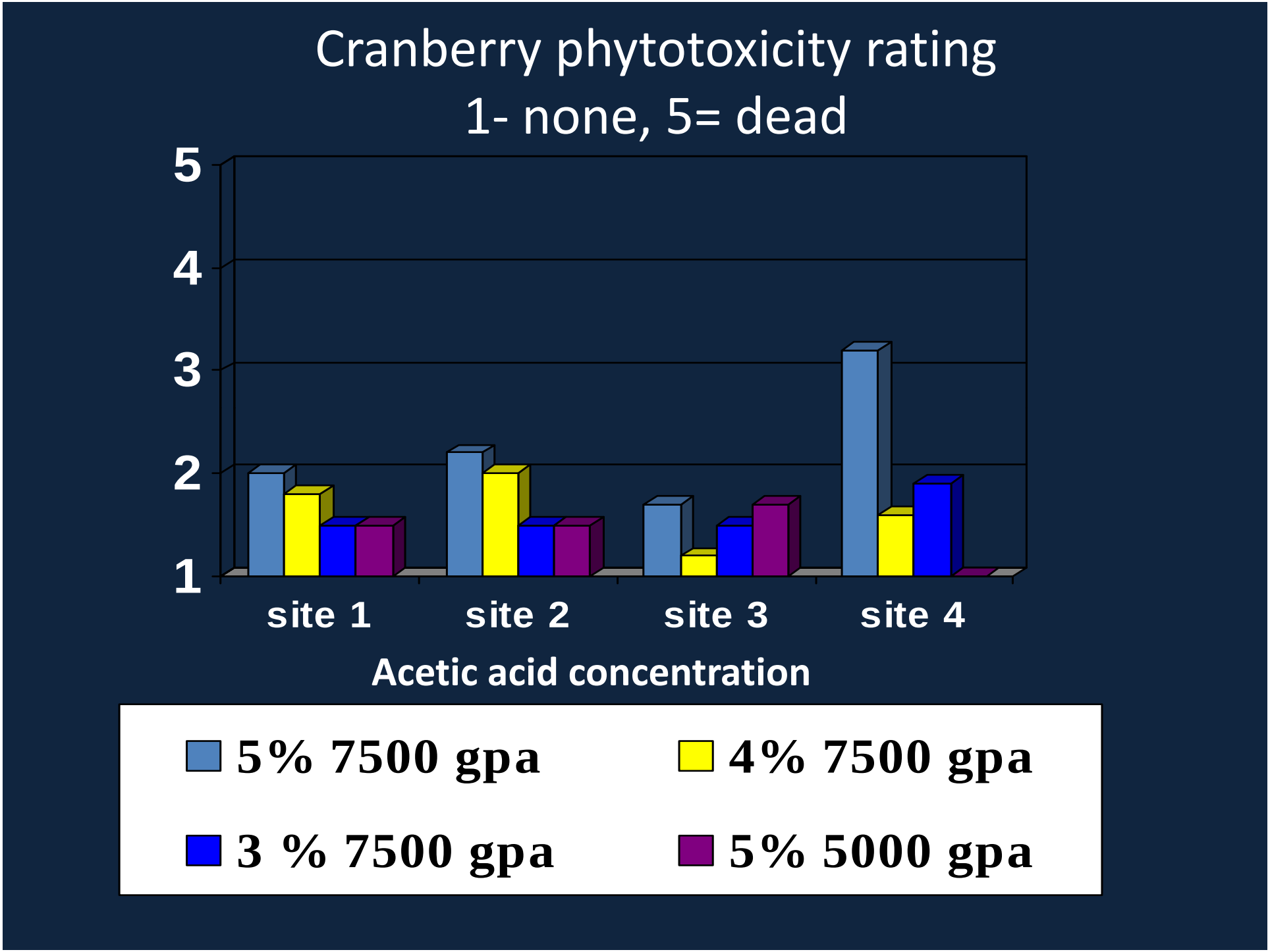
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