

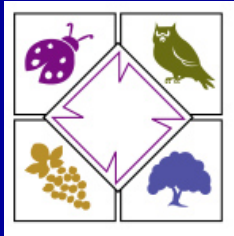
Central Coast Vineyard Team

Tracking Vineyard BMP Adoption and Identifying Links to Water Quality Protection

Kris O'Connor, M.S.

NPS Meeting
September 20, 2005

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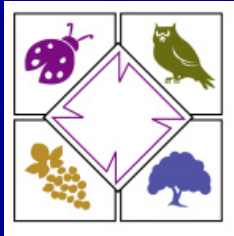


Central Coast Vineyard Team History & Mission

- Non-Profit Grower Group
- Broad and Diverse Growers – Different Size Farms & Different Farming Philosophies
- Mission: Educate and Guide Towards Sustainable Practices
- Initial Funding from DPR (1996) to Develop Positive Points System



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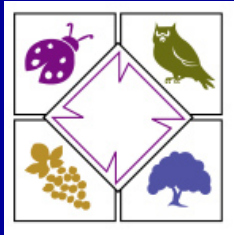


Positive Points System

- 1,000 Point Evaluation
- Evaluate extent of integrated farming practices
- Pest, Soil, Water, Viticulture, Wine Quality, Continuing Education
- Yes/No Questions with point value
- Track changes in farming practices over time
- Data since 1996
- 320 evaluations collected last year



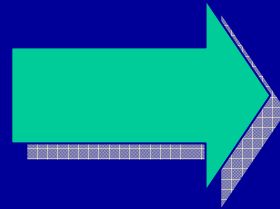
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Why do Farming Practices Matter?

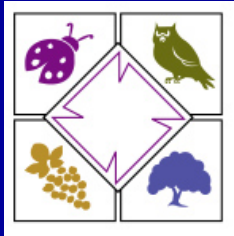
Positive Points System

Measure of Farming Practices – Tracks Farmer's Behavior



- Improved Water Quality?
- Less Pesticide Risk?
- Healthy Workers?

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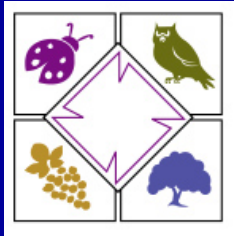
Biologically Integrated Farming System (BIFS)

2002 - 2005

- Goal: Increase the use of integrated farming practices to reduce pesticide risks
- Assist Growers Adopting New Practices based on PPS
- Intensive Pest Monitoring
- Track Pesticide Use
- Demo Blocks in 3 Counties
- BIFS Growers manage 20,000 acres



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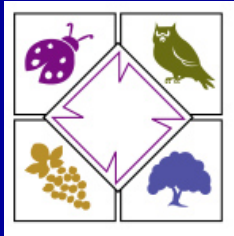


BIFS Implementation – Varied by Site, Issue, and Program

- Intensive weekly monitoring and recording
- Action plans based on target pest and material
- Reduce bandwidth
- Alternative weed practices
- Alternative, low risk materials
- Beneficial releases, insectary refuge, compost, cover crops
- Tolerate higher pest levels

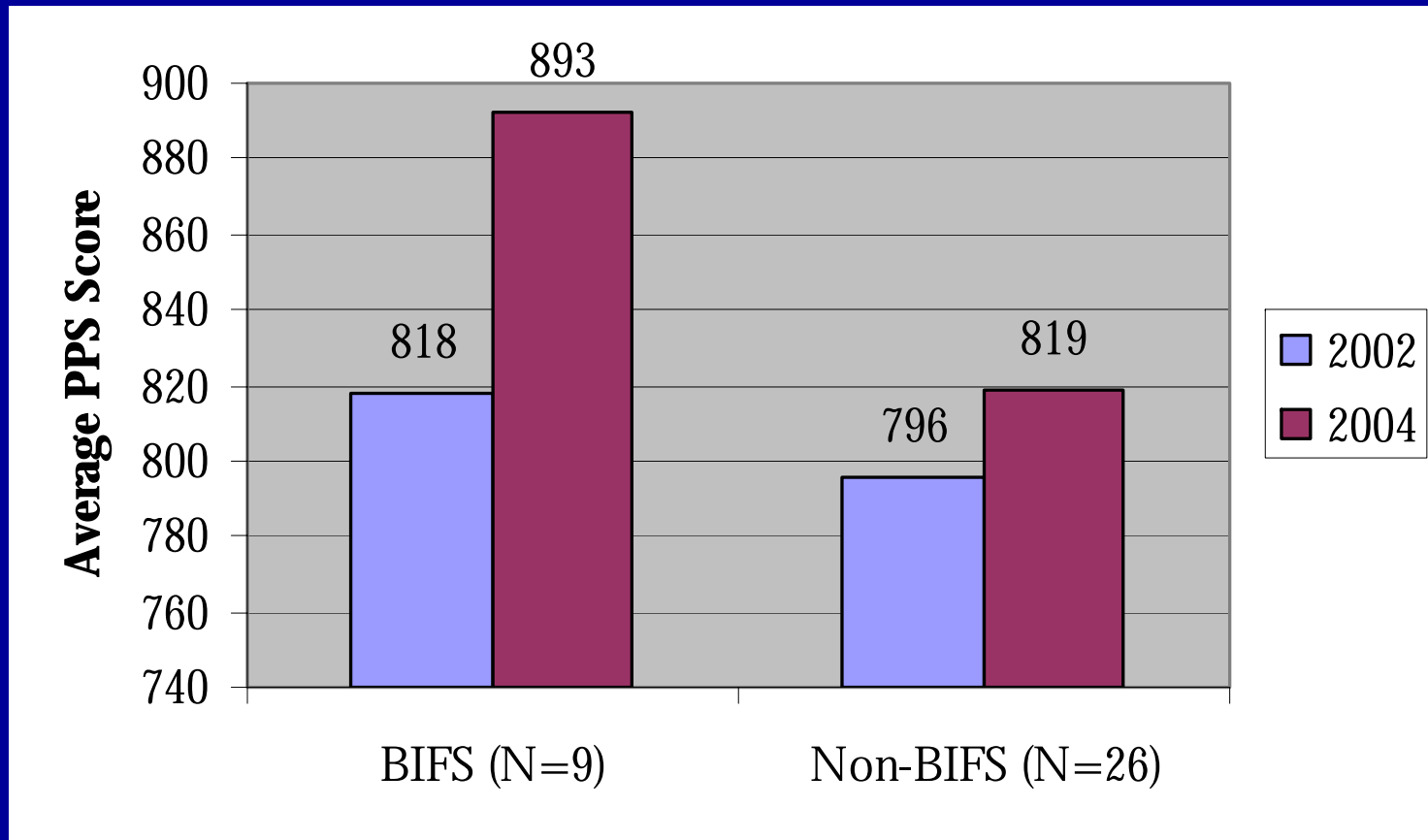


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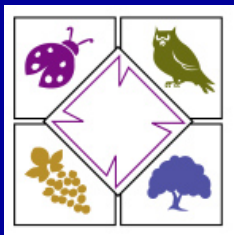


Measuring Farming Practices Behavior - Changes in PPS Scores

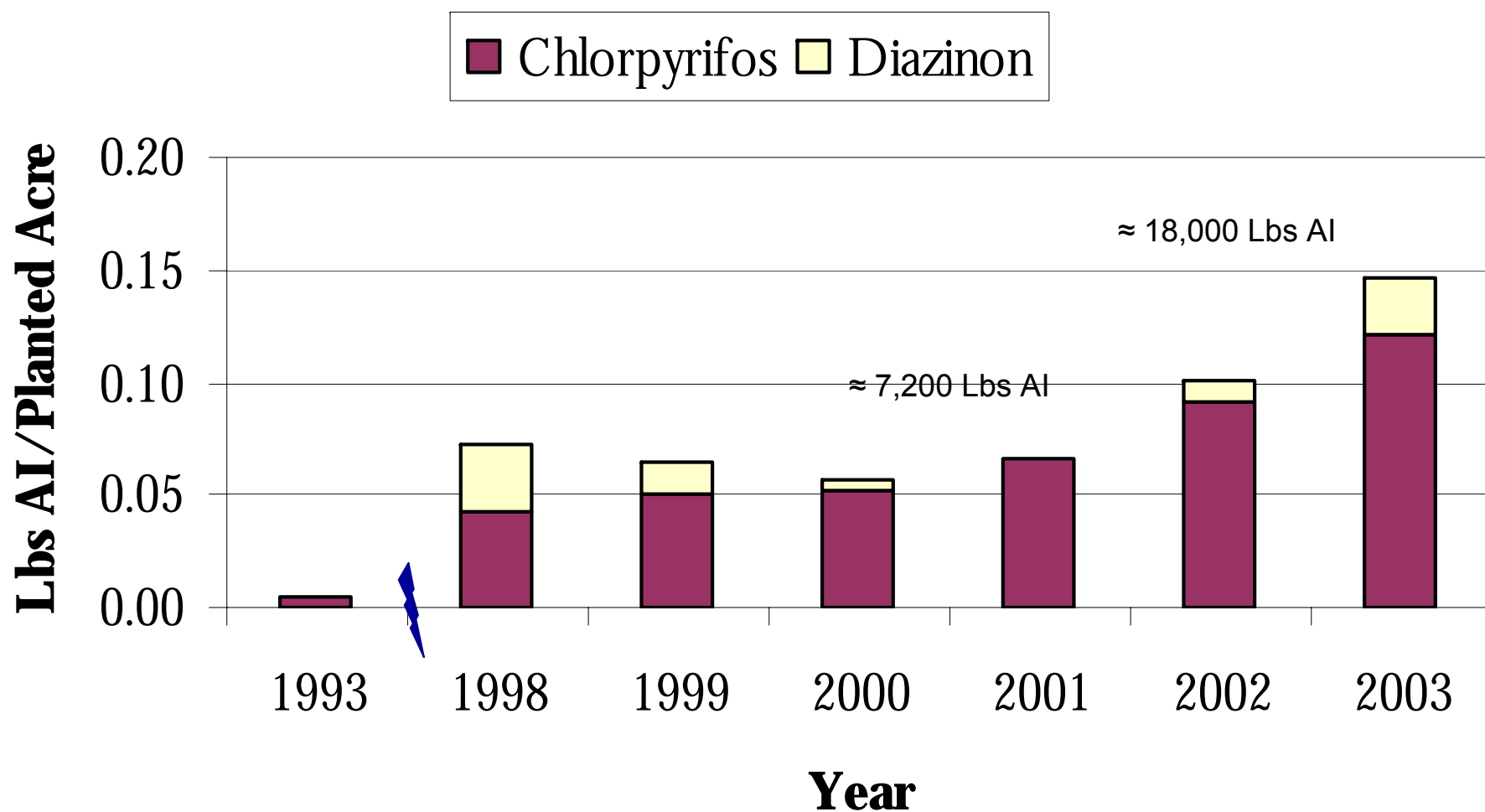
BIFS vs. Non-BIFS Growers (2002 – 2004)



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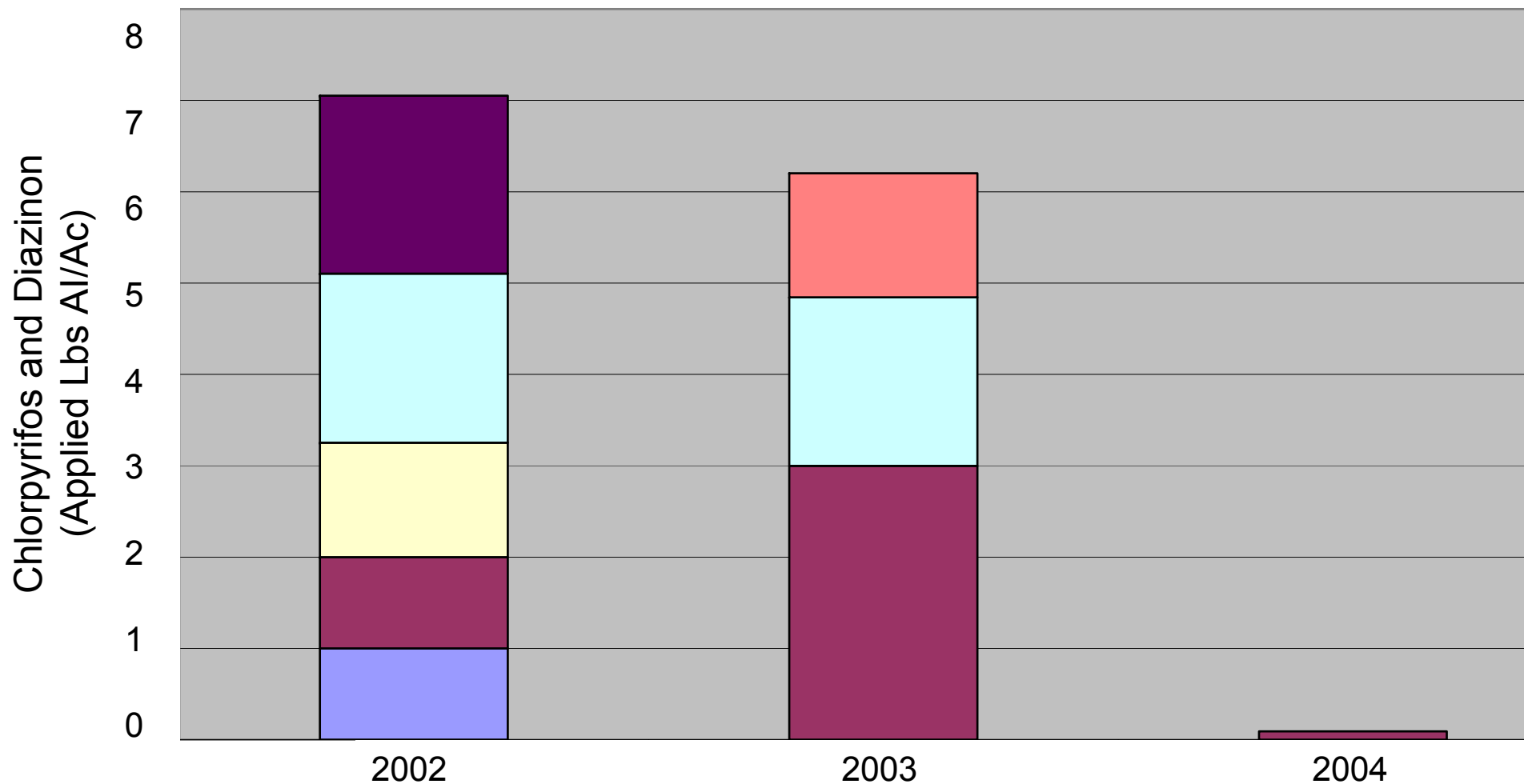


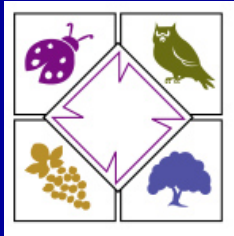
Central Coast Organophosphate Use Chlorpyrifos & Diazinon (per acre basis)



Source: DPR PUR 1993 - 2003

BIFS Organophosphate Use - Chlorpyrifos and Diazinon for Mealybug





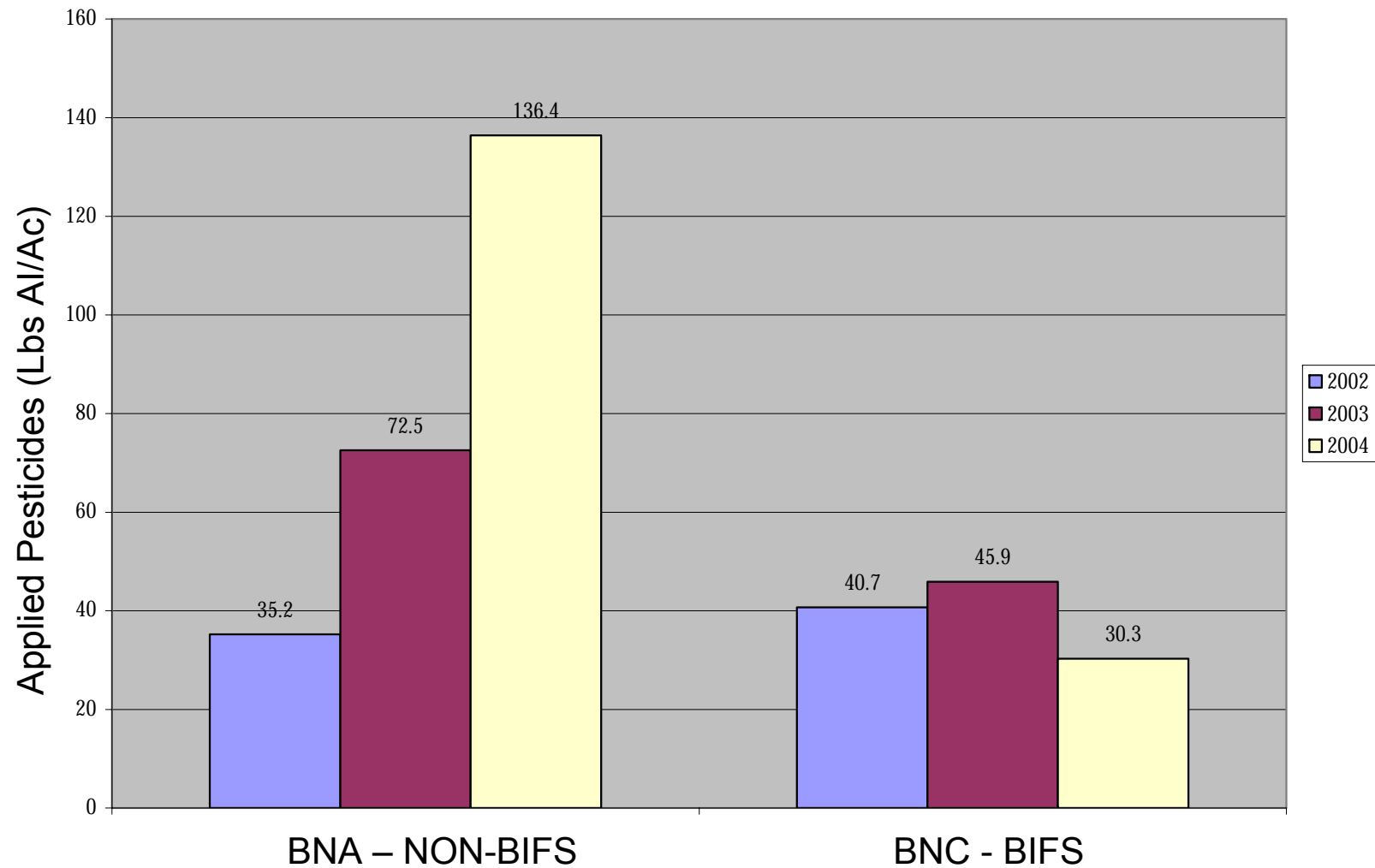
BIFS Reductions of Other Pesticides

By Project End in BIFS Blocks

- Eliminated simazine
- Eliminated oryzalin
- Reduced paraquat by half

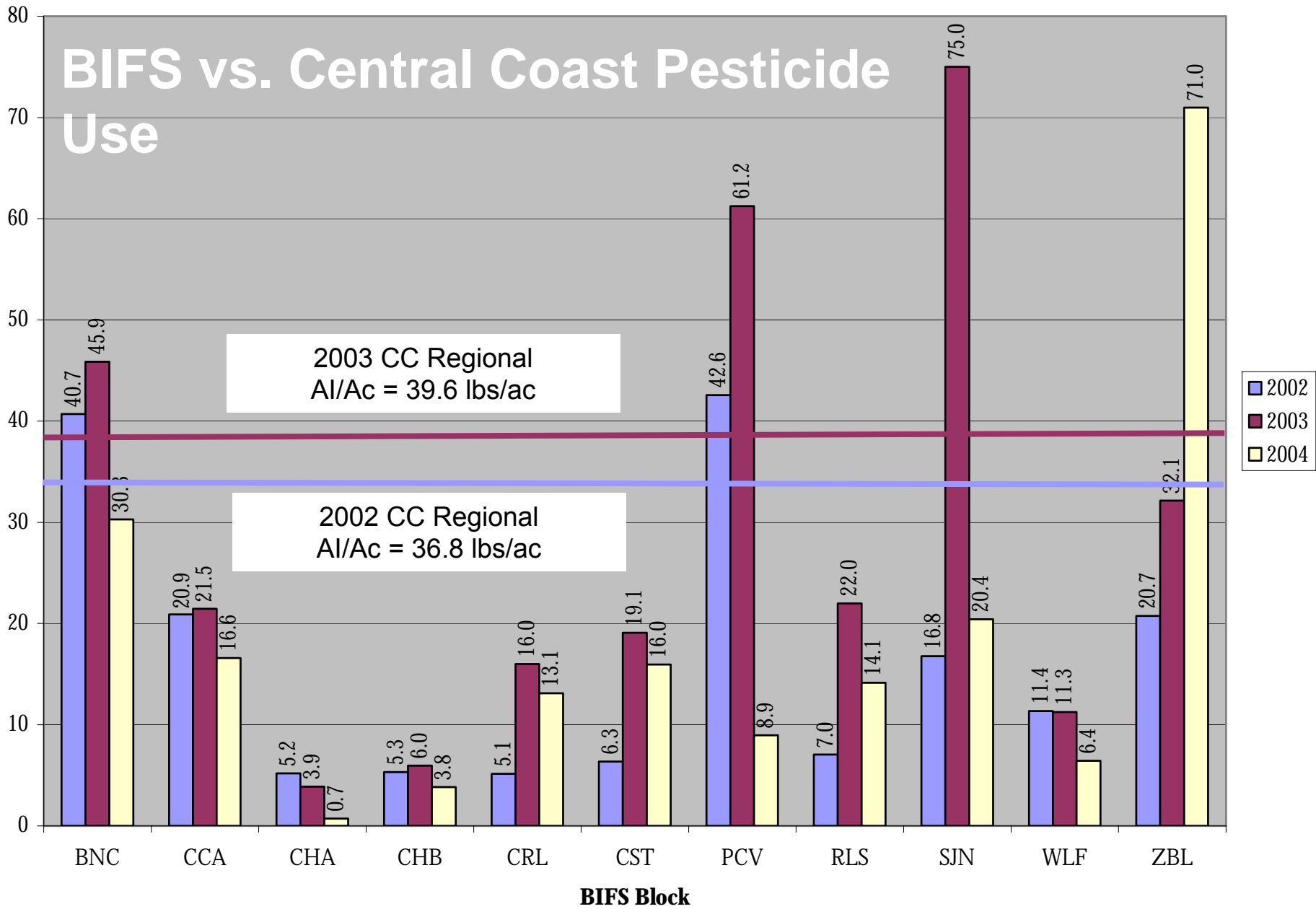


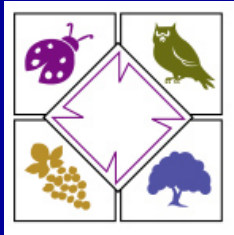
Side by Side Comparison – BIFS vs. Non-BIFS at BN Vyd



BIFS vs. Central Coast Pesticide Use

Total Applied Pesticides (Lbs AI/Ac)



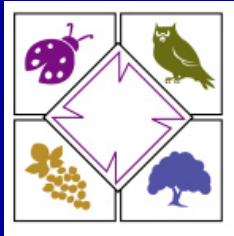


Clean Water Project: Reducing NPS Pollution from Vineyards

- Goal – Demonstrate practices that reduce Non-Point Source (NPS) pollution from Central Coast Vineyards
- Watersheds listed for agriculturally linked impairments: nutrients, sediment, pesticides



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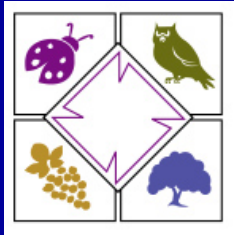


Clean Water Project: Monitoring and Evaluation

Demonstration projects show growers benefits and results of implementing BMPs

- Photo documentation
- Yearly PPS evaluations
- Revised Universal Soil Loss Equation (RUSLE) 2



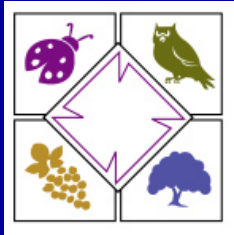


Demonstration Site Results: Paso Robles



Native filter strip
(pine blues grass,
Nodding needle
grass, purple
needle grass)
Buckwheat

- BMP: Plant cover crop & native filter strip
- Initial cost/acre: app. \$300.00
- Estimated Soil Loss w/out BMP = 24.50 tons/ac/yr
- Estimated Soil Loss WITH BMP = 0.90 tons/ac/yr
- Est. decrease in soil loss = 23.60 tons/ac/yr



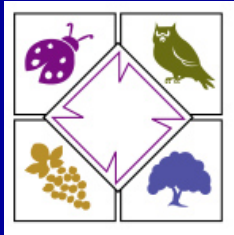
Demonstration Site Results: Santa Maria



Cover crop (tall and
sheep's fescue)

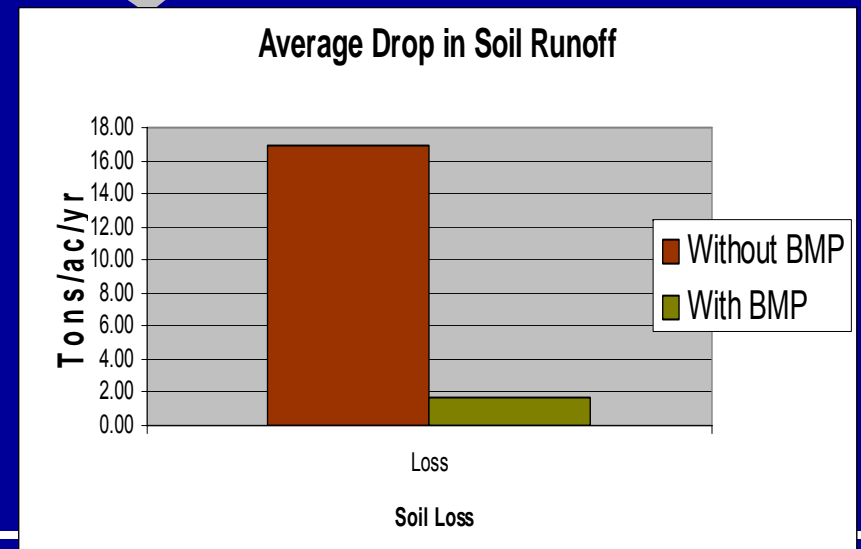
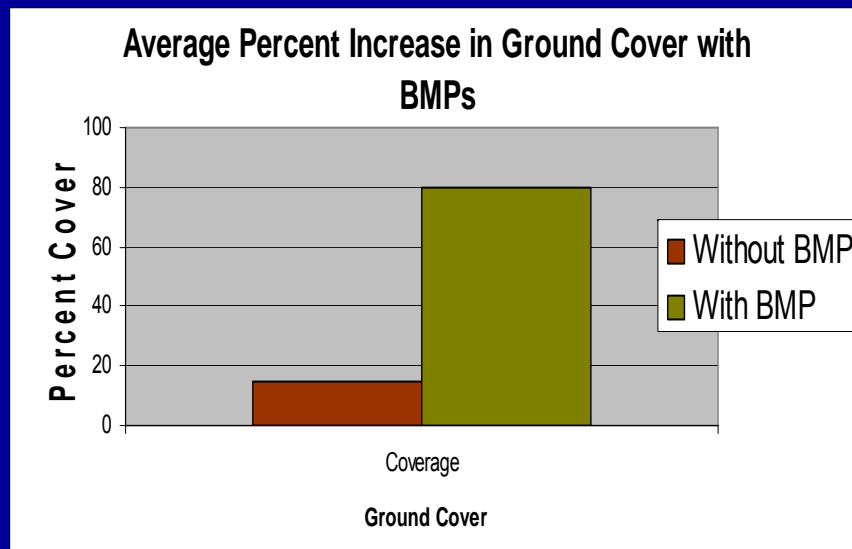
- BMP: Grade, plant cover crops and secure with jute netting
- Initial cost/acre: app. \$200.00
- Estimated Soil Loss w/out BMP = 32.50 tons/ac/yr
- Estimated Soil Loss WITH BMP = 0.75 tons/ac/yr
- Est. decrease in soil loss = 31.5 tons/ac/yr

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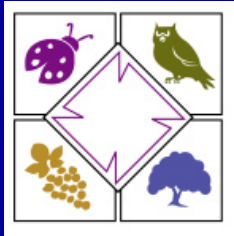


Clean Water Project Results

- Coverage of bare areas increased from 15% to 80% (average for all sites)
- Estimated soil runoff decreased from 16.91 to 1.67 tons/ac/yr



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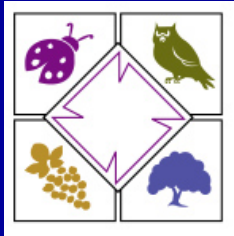


Outreach and Education – Extending Information to Broader Audience

Outreach and Education (2002-2004)

- Tailgate Meetings
 - 55 Meetings & 1,383 attendees
 - Avg Acreage = 7,100 ac/mtg
- Newsletters
 - Quarterly – 1,800 recipients
- Presentations & Events
 - 108 events & 20,000 reached
- Articles
 - 15 articles – various publications

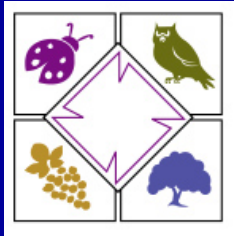




Future Plans – Building on Prior Work and Evaluating Outcomes

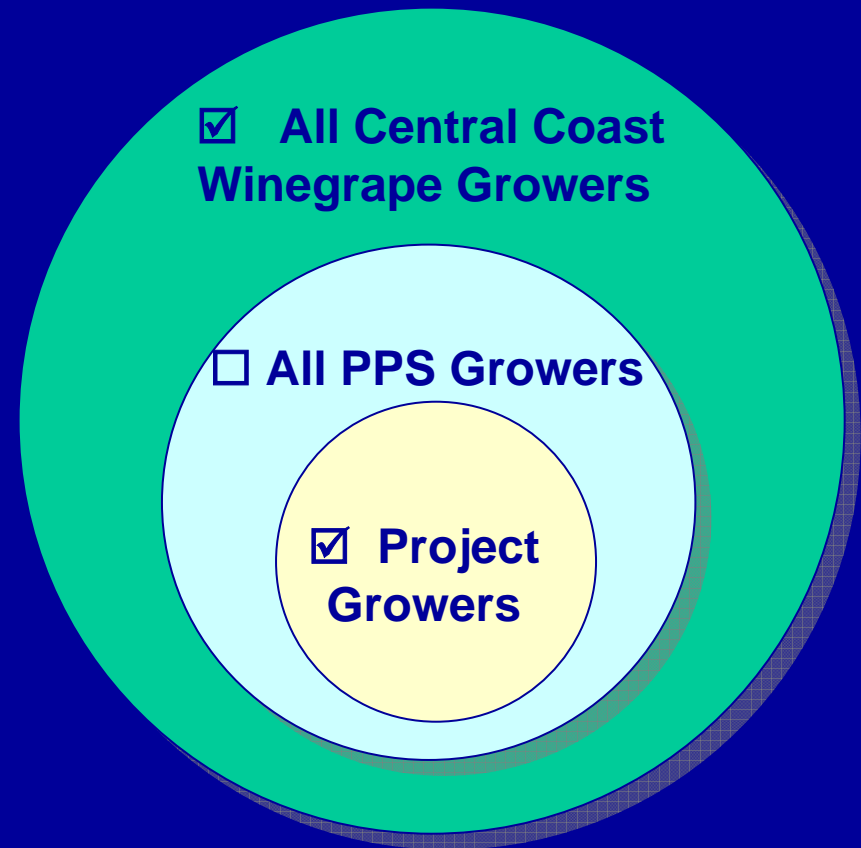
- Pesticide Mitigation and Water Quality
 - Expands on BIFS
 - Focus on OP and floor mgt
 - Water Quality Analysis
 - Cover Crop Assessment
 - Observed Erosion vs. Modeled Estimates
- Spanish Program

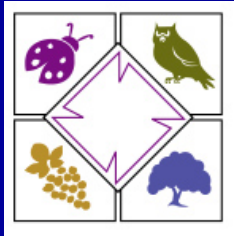




Future Plans

- Expand Pesticide Analysis for Other Populations
- Pesticide Use for PPS growers NOT in Demo Projects





CENTRAL COAST VINEYARD TEAM

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