Central Coast Vineyard Team

Tracking Vineyard BMP Adoption and Identifying Links to Water Quality Protection

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NPS Meeting
September 20, 2005
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
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

Good for Growers ☑️ Good for the Environment ☑️ Good for the Community
Why do Farming Practices Matter?

Positive Points System

Measure of Farming Practices – Tracks Farmer’s Behavior

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

Good for Growers ☑ Good for the Environment ☑ Good for the Community
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
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
Measuring Farming Practices Behavior - Changes in PPS Scores

818 893
796 819

2002 2004

Average PPS Score

BIFS (N=9) Non-BIFS (N=26)
Central Coast Organophosphate Use
Chlorpyrifos & Diazinon (per acre basis)

Source: DPR PUR 1993 - 2003
BIFS Organophosphate Use - Chlorpyrifos and Diazinon for Mealybug

Chlorpyrifos and Diazinon (Applied Lbs AI/Ac)

2002

2003

2004

Total Lbs Applied/Acre

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

Applied Pesticides (Lbs AI/Ac)

<table>
<thead>
<tr>
<th>Year</th>
<th>BNA – NON-BIFS</th>
<th>BNC - BIFS</th>
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<tbody>
<tr>
<td>2002</td>
<td>35.2</td>
<td>40.7</td>
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<tr>
<td>2003</td>
<td>72.5</td>
<td>45.9</td>
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<tr>
<td>2004</td>
<td>136.4</td>
<td>30.3</td>
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BIFS vs. Central Coast Pesticide Use

2003 CC Regional
Al/Ac = 39.6 lbs/ac

2002 CC Regional
Al/Ac = 36.8 lbs/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
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

• 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

- 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

Good for Growers ✧ Good for the Environment ✧ Good for the Community
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
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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