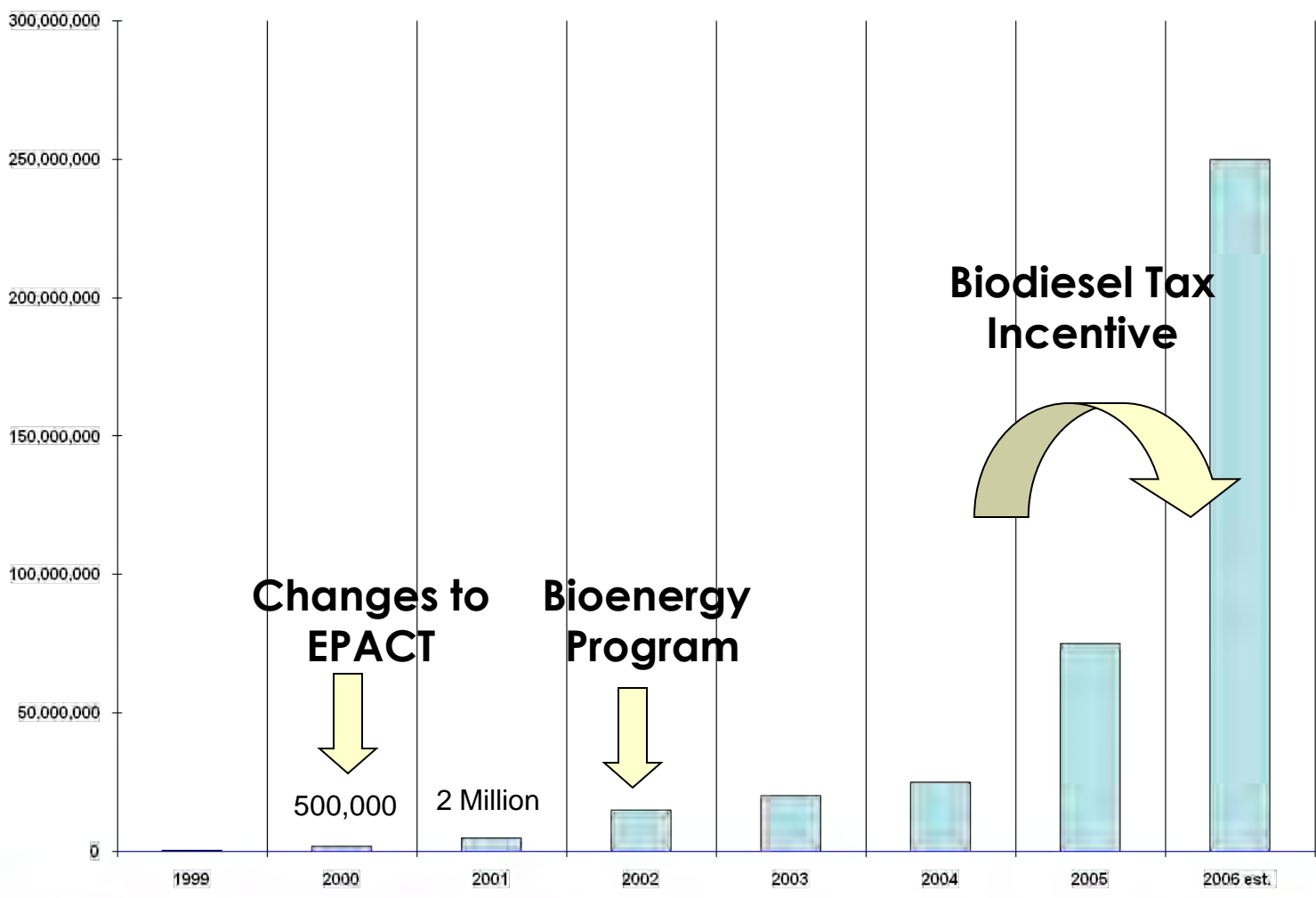




**Jenna Higgins**  
**National Biodiesel Board**  
**Director of Communications**



# US Biodiesel Demand



# What Does it Cost?

- In general, B20 sells for the same as diesel to 20 cents more per gallon
- **Tax incentive will make blends MORE cost competitive**
  - ◆ **Blender's credit of \$1/\$.50**
- **There are variables** that determine the cost differential, but the tax incentive will help close the gap.

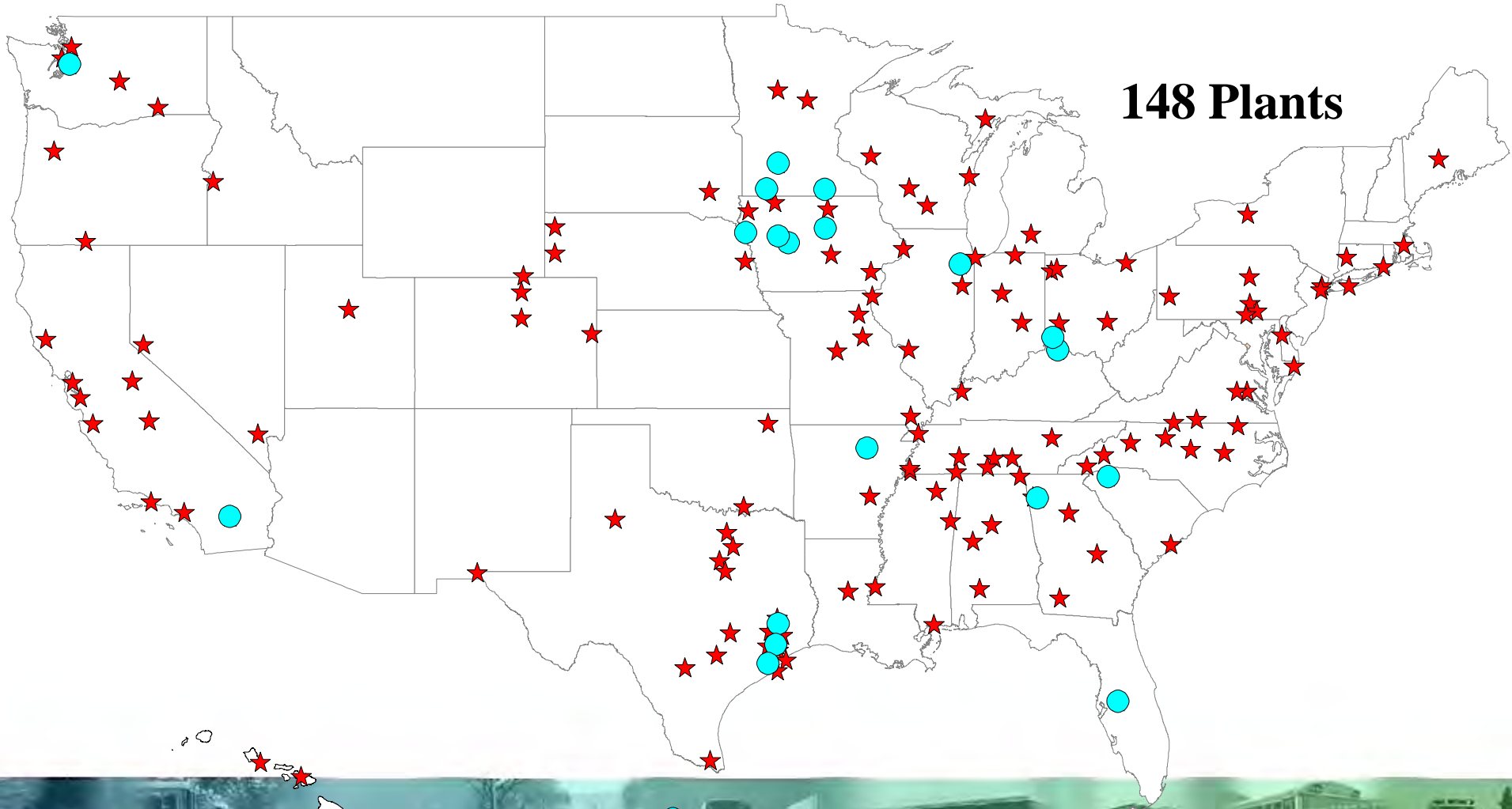


- 1,800 petroleum distributors now offer biodiesel
- 1,000 retail locations
  - ◆ 600 truck stops or truck accessible locations ([biotrucker.com](http://biotrucker.com))
- 37 terminals



# Production Locations (6/7/07)

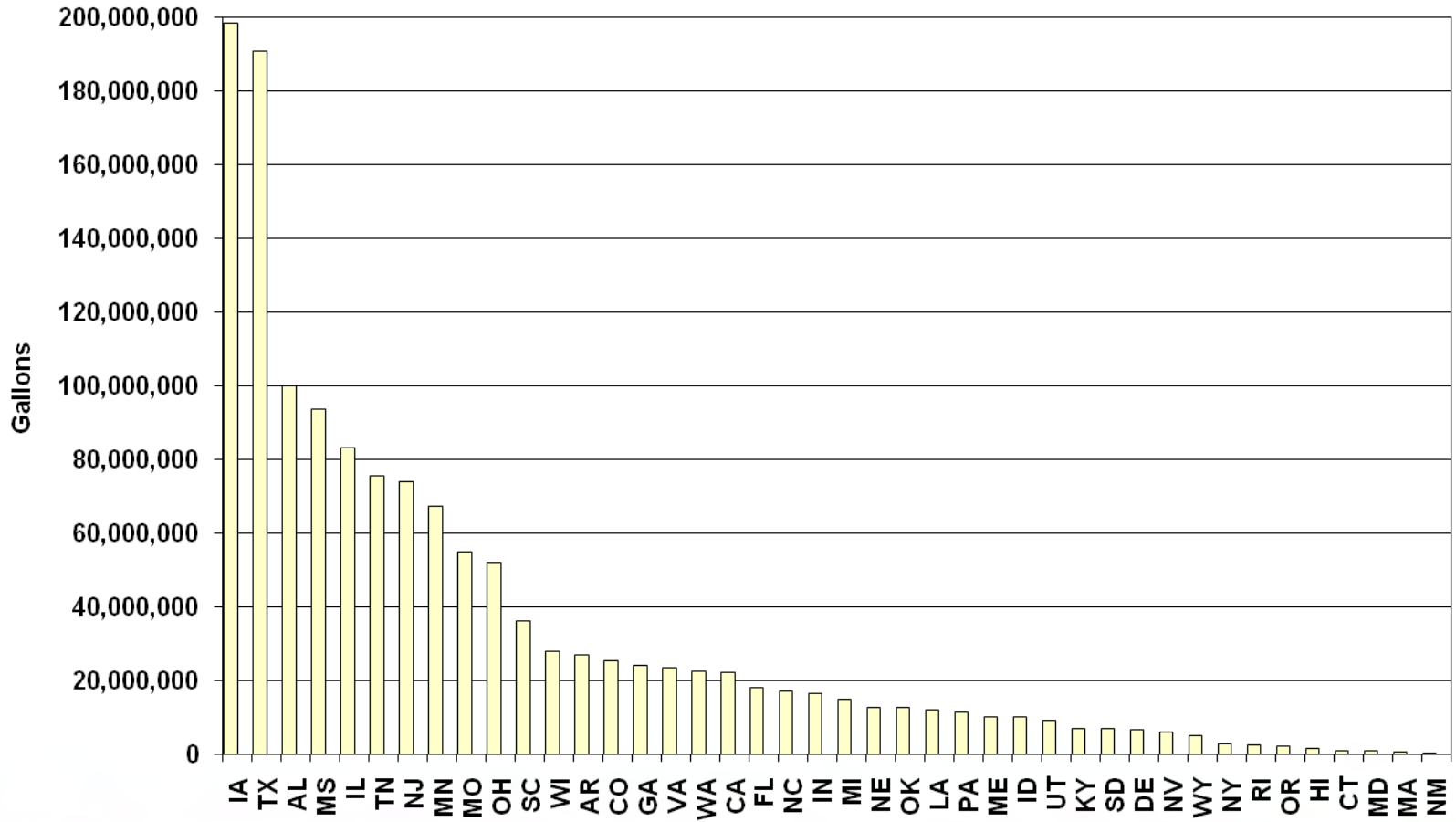
148 Plants



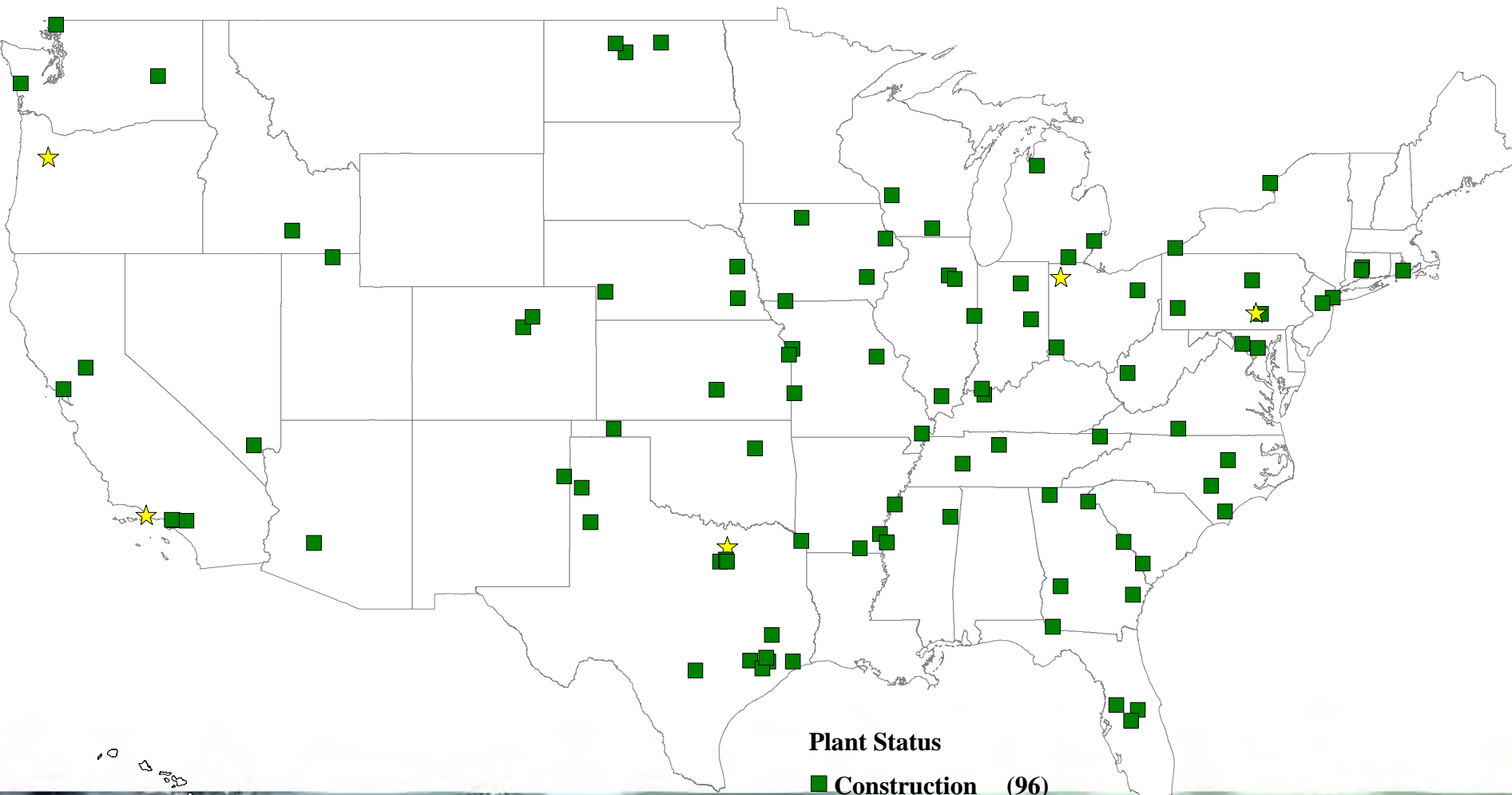
 BQ-9000 Accredited Producers



# Capacity by State (6/7/07)



# Construction & Expansion (6/7/07)





# With Growth Comes Challenges....

- NBB has aggressive fuel quality outreach program
- Working with state/federal agencies on adoption/enforcement of ASTM D-6751
  - ◆ State Div. of Weights and Measures
  - ◆ Internal Revenue Service
- Fuel Quality Web Resource [www.biodiesel.org](http://www.biodiesel.org)
- BQ-9000





**BQ-9000.com**



# Biodiesel Emissions Research

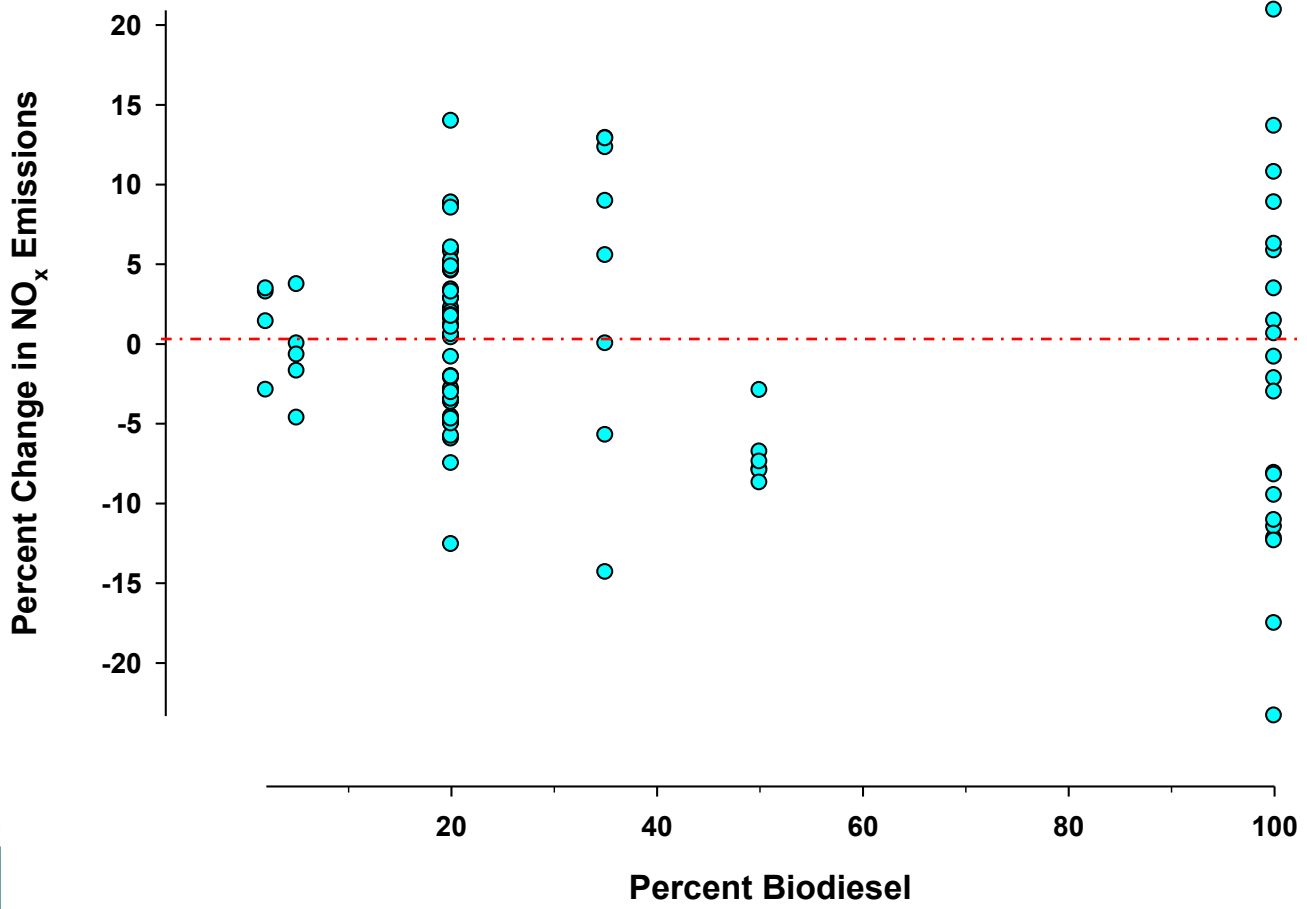
## Chassis Dynamometer Data

- **Douglas R. Lawson**
- **National Renewable Energy Laboratory**
- **Golden, Colorado**
- **[doug\\_lawson@nrel.gov](mailto:doug_lawson@nrel.gov)**



# Biodiesel's Effect on NO<sub>x</sub> Emissions – Vehicle

Chassis-based NO<sub>x</sub> Emissions for Various BD Blend Levels



# Bottom Line on Biodiesel and NO<sub>x</sub>

“There are insufficient data, and insufficiently representative data, to draw any conclusions regarding the average effect of biodiesel on NO<sub>x</sub> emissions, even directionally.”

-NREL



# Weekday/Weekend Ozone Studies – Results published July 2003

**JOURNAL** JULY 2003 VOLUME 53  
OF THE AIR & WASTE MANAGEMENT ASSOCIATION

Available online at [www.awma.org](http://www.awma.org)

**Selected Papers on Weekday and Weekend Ozone Differences in Southern California**

772 **Weekday/Weekend Ozone Differences: What Can We Learn from Them?**  
*J.M. Nease and D.F. Kahlbaum, Air Improvement Resources, Inc.; and G.T. Wall, General Motors Corp.*

789 **Day-of-Week Behavior of Atmospheric Ozone in Three U.S. Cities**  
*B.K. Pan and D. Seignor, Atmospheric and Environmental Research, Inc.; and W. White, Washington University*

802 **Evolution of the Magnitude and Spatial Extent of the Weekend Ozone Effect in California's South Coast Air Basin, 1981-2000**  
*E.M. Fyfe, W.R. Stockwell, D.E. Campbell, and R.E. Nease, Desert Research Institute; and D.R. Leshin, National Renewable Energy Laboratory*

816 **Differences between Weekday and Weekend Air Pollutant Levels in Southern California**  
*C.L. Blanchard and S.J. Tamberlain, Enviro*

829 **Weekday versus Weekend Activity Patterns for Ozone Precursor Emissions in California's South Coast Air Basin**  
*L.R. Chinkin, LLC; Gae, T.H. Funk, H.R. Walker, P.T. Roberts, and P.A. Ryan, Scionera Technology, Inc.; and D.R. Leshin, National Renewable Energy Laboratory*

844 **Diurnal and Weekday Variations in the Source Contributions of Ozone Precursors in California's South Coast Air Basin**  
*E.M. Fyfe, D.E. Campbell, B. Zelenka, J.G. Sappalini, J.L. Brown, W.S. Gillett, and W.R. Stockwell, Desert Research Institute; and D.H. Lawson, National Renewable Energy Laboratory*

864 **Modeling Weekday/Weekend Ozone Differences in the Los Angeles Region for 1997**  
*G. Yarwood and T.E. Steckenius, Enron Corp.; J.G. Meinen, Air Improvement Resources, Inc.; and A.M. Dunker, General Motors Research and Development Center*

876 **Day-of-Week Patterns of Particulate Matter and Its Chemical Components at Selected Sites in California**  
*N. Mozalek, H. Tran, B.E. Crooks, and L.C. Leshin, California Air Resources Board*

889 **Day-of-Week Patterns in Toxic Air Contaminants in Southern California**  
*J. Alston, California Air Resources Board*

897 **Selective Leaching of Valuable Metals from Waste Printed Circuit Boards**  
*C.-J. Chou and S.O. Lee, North Carolina State University; and H.S. Yang, T.-J. Ho, and M.-J. Kim, Chonnam National University*

903 **Toxicological Evaluation for the Hazard Assessment of Tire Crumb for Use in Public Playgrounds**  
*D.A. Birkholz, Enviro-Test Laboratories; K.L. Bellar, Alberta Centre for Injury Control and Research; and T.L. Williams, University of Alberta*

July 2003

# EM

Air & Waste Management Association's Magazine for Environmental Managers

Visit Us Online at [www.awma.org](http://www.awma.org)

**What's Behind the "Weekend Ozone Effect" in Southern California?**




# Weekday/Weekend Ozone Studies:

People spend about 35% more time outdoors on weekends than on weekdays. But, ambient ozone levels are as high or higher on weekends than on weekdays in many urban U.S. locations, despite much lower emissions of the ozone precursors [hydrocarbons (VOC), carbon monoxide, and nitrogen oxides].

**What's going on here?**



# Weekday/Weekend NO and O<sub>3</sub> Changes, % South Coast (Los Angeles) Air Basin

Location	Nitric Oxide (NO)	Ozone (O <sub>3</sub> )
<b><i>Saturday/Midweek</i></b>		
Los Angeles, N. Main	<b>-39%</b>	<b>+29%</b>
Pico Rivera	<b>-31%</b>	<b>+27%</b>
Azusa	<b>-49%</b>	<b>+31%</b>
Upland	<b>-38%</b>	<b>+26%</b>
<b><i>Sunday/Midweek</i></b>		
Los Angeles, N. Main	<b>-57%</b>	<b>+49%</b>
Pico Rivera	<b>-61%</b>	<b>+50%</b>
Azusa	<b>-71%</b>	<b>+55%</b>
Upland	<b>-71%</b>	<b>+44%</b>
<b><i>Four-Site Averages</i></b>		
Saturday/Midweek	<b>-39%</b>	<b>+28%</b>
Sunday/Midweek	<b>-65%</b>	<b>+50%</b>



# Implications and Questions

- $\text{NO}_x$  reductions in urban areas throughout U.S. currently do not reduce, and usually increase, ambient ozone
- Weekend ozone studies indicate reduction in HC emissions will be more effective in reducing ozone than  $\text{NO}_x$  emission reductions
- Possible better ozone control option is to promote light duty diesel and B20





# NBB OEM Program



DAIMLERCHRYSLER



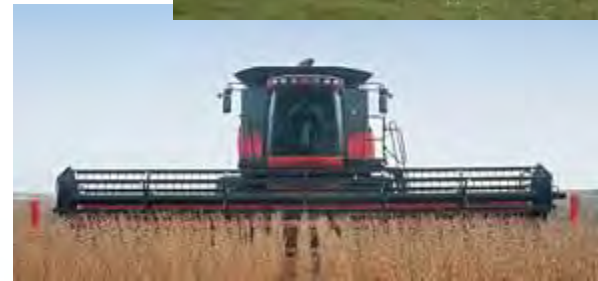
# NBB OEM Program—3 Prongs

- I. OEM support for B20 in existing vehicles
- II. B20 in retrofits for existing vehicles
  - Funded through industry and government
- III. OEM support for B20 in new vehicles (2007/2010)
  - Preliminary results VERY POSITIVE



## Increasing OEM Support

- Cummins approved B20 across the board
- New Holland: B20 across board
- Caterpillar: B30 across board
- DaimlerChrysler approves B20 in 2007 Dodge Ram pickups used in fleets & B5 factory fill for pickups
- CaseIH approves B20 for most models and B100 in many
- Deere: B5 or lower recommended for now, B20 later
- GM: B5, B20 in some models
- Detroit Diesel: B5
- VW: B5 across board





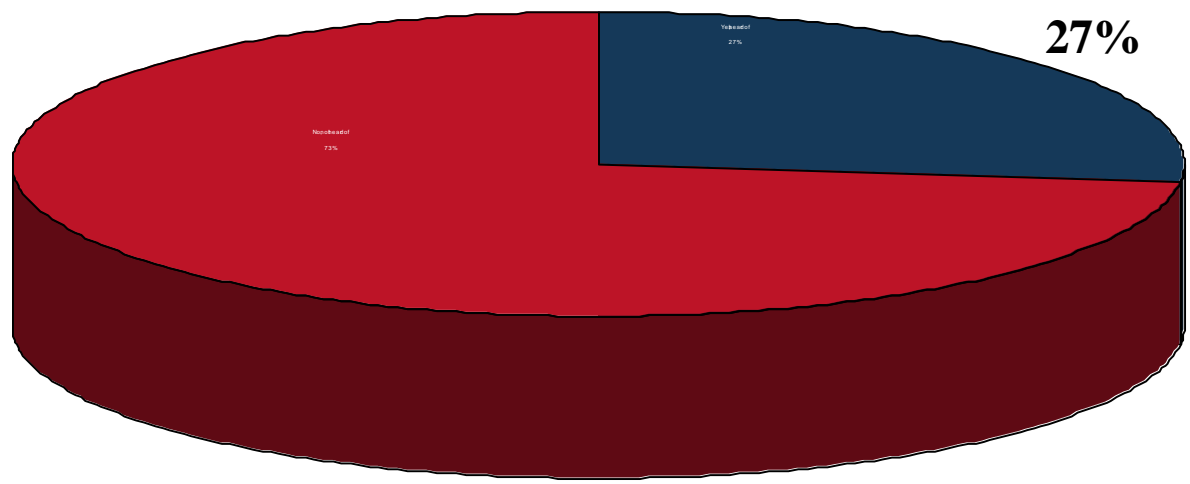
# Awareness & Perceptions of Biodiesel

## 2007 Consumer Survey



# June 2004

No, not heard of  
73%



Yes, heard of  
27%

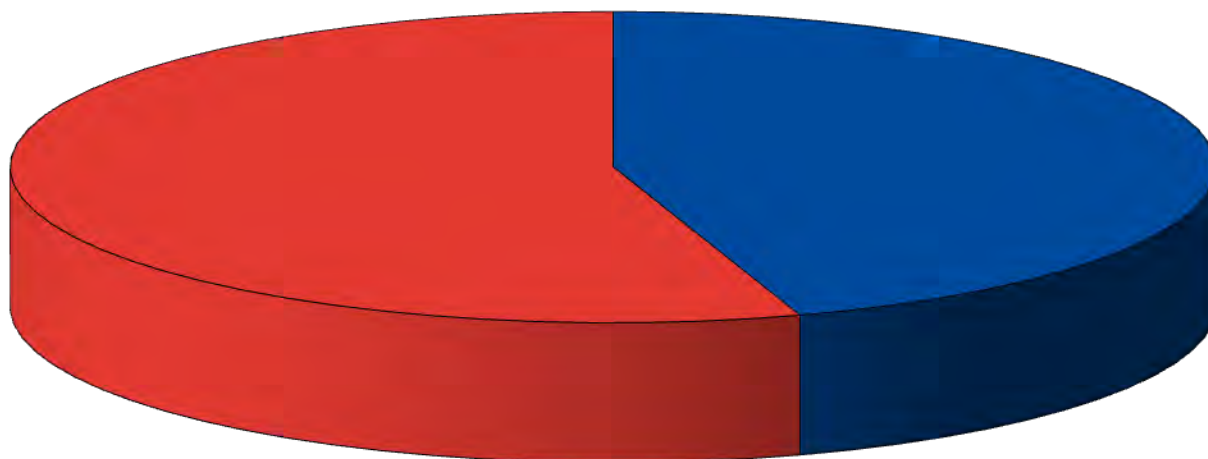


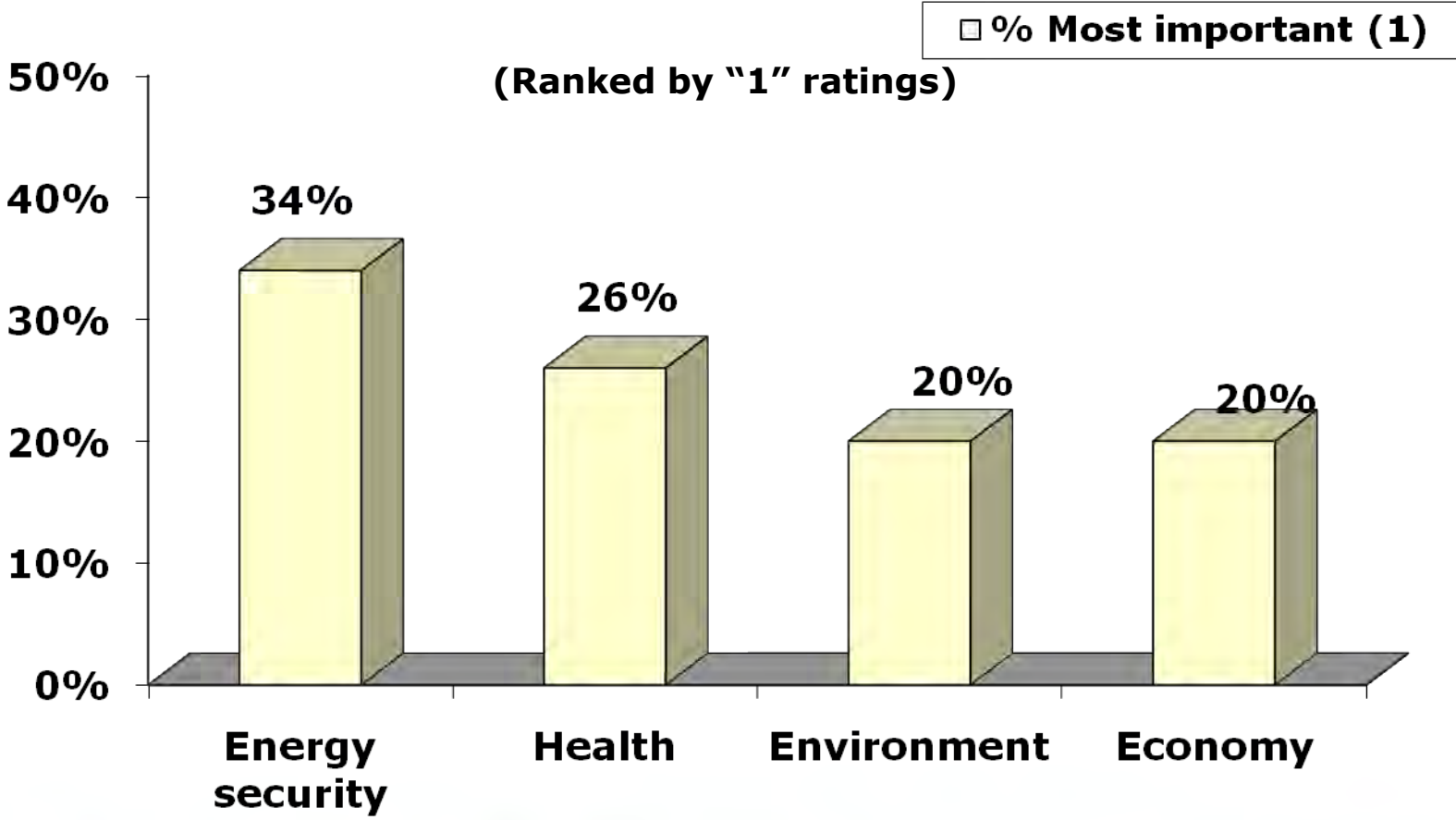
# May 2007

"Are you familiar with a product called biodiesel?" (Q1)

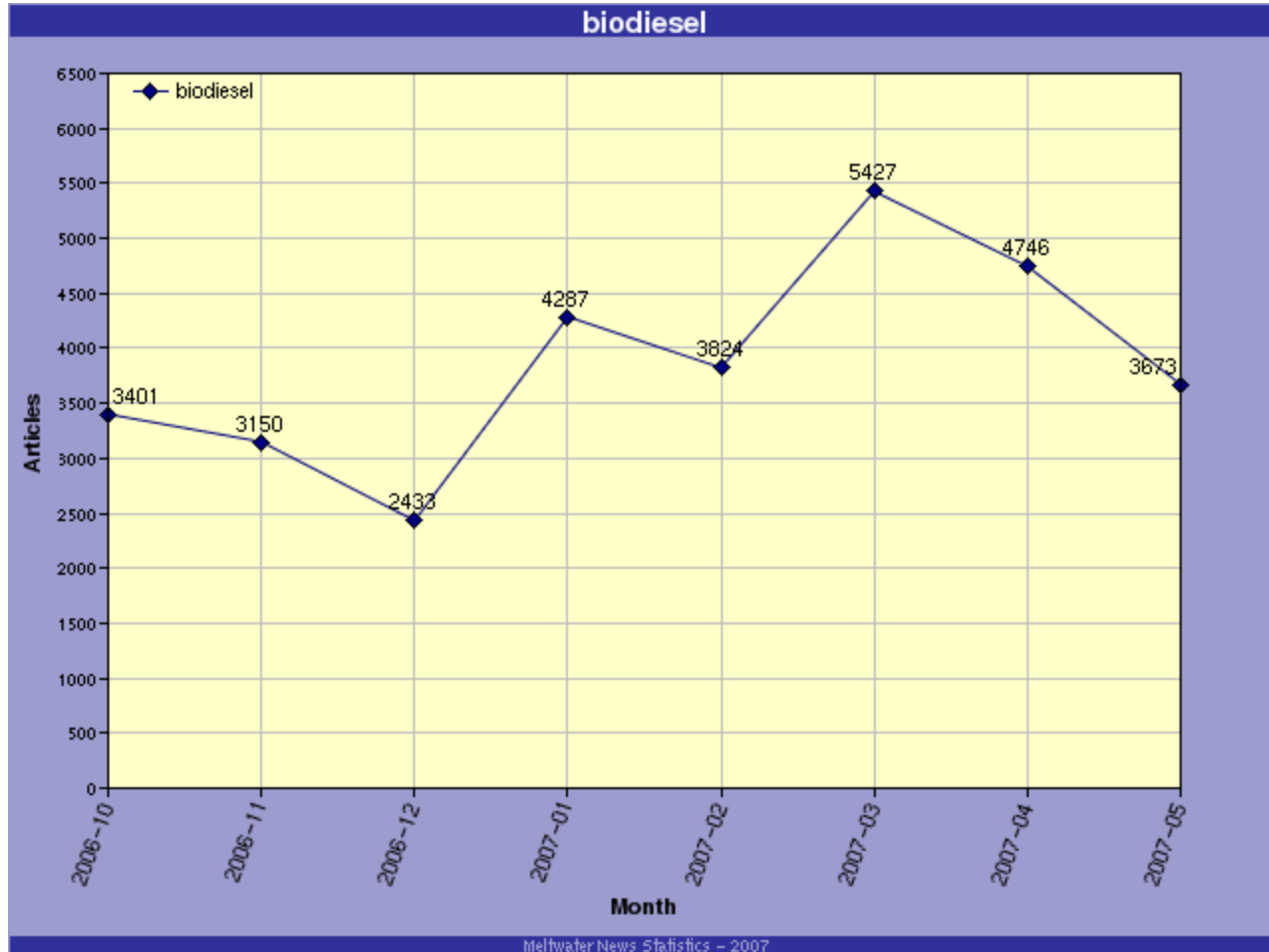
**No, not heard of  
54%**

**Yes, heard of  
46%**





# Biodiesel News Coverage FY07



# "Biodiesel" News 06 - 07

