

Biodiesel: Fuel Availability

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Biodiesel: The One and Only

- Transesterification converts fats and oils into long-chain mono alkyl esters or biodiesel. This is also called fatty acid methyl esters or FAME.
- Methyl esters that do not meet ASTM 6751 are not biodiesel
- Raw vegetable oil or recycled grease is not biodiesel

ASTM D6751-07a

<u>Property</u>	<u>ASTM Method</u>	<u>Limits</u>	<u>Units</u>
Flash Point	93	130 min.	degree C
Water & Sediment	2709	0.05 max.	vol.%
Carbon Residue (100% sample)	4530	0.05 max.	wt. %
Sulfated Ash	874	0.02 max.	wt. %
Kin. Viscosity, 40C	445	1.9 - 6.0	mm ² /sec.
Sulfur S500	5453	0.05 max.	wt. %
S15	5453	15 max	ppm
Cetane	613	47 min.	
Cloud Point	2500	By Customer	degree C
Copper Corrosion	130	No. 3 max.	
Acid Number*	664	0.50 max.	mg KOH/g
Free Glycerin	6584	0.020	wt. %
Total Glycerin	6584	0.240	wt. %
Phosphorous	4951	10 max	ppm
Distillation, T90 AET	1160	360 max	degree C
Combined Na/K	EN 14538	5 PPM	ppm
Combined Ca/Mg	EN 14538	5 PPM	ppm
Oxidation Stability	EN 14112	3 min	hours
Workmanship	Free of undissolved water, sediment & suspended matter		

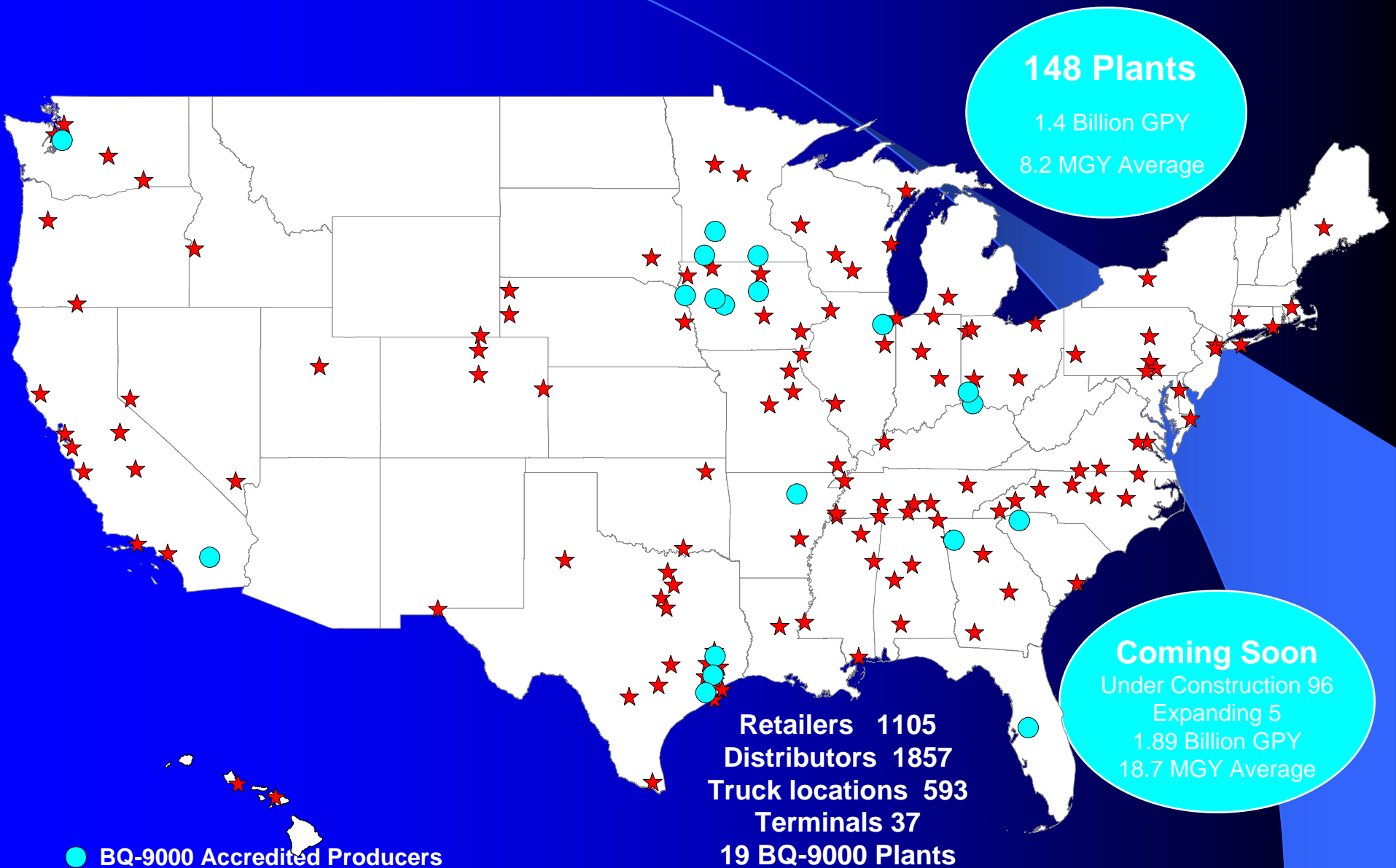


Bold = BQ-9000 Critical Specification Testing

Finding a supplier

- The National Biodiesel Board website lists nearly 300 biodiesel marketers and 18 accredited BQ9000 certified marketers
www.biodiesel.org/buyingbiodiesel
- The address of the contact on the website is not always an indication of where the biodiesel is produced and not an indication of the transportation cost to deliver the product

Biodiesel Production



The BQ-9000

Advantage



- To **promote** the commercial success and public acceptance of biodiesel
- To help **guarantee** that biodiesel fuel is produced and maintained at ASTM D 6751 levels
- To **provide** a mechanism to track biodiesel in the distribution system, identifying biodiesel which meets ASTM standards.

The Price of Biodiesel

- Feedstock Cost
- Transesterification
- Delivery cost
- Less tax credits

Who Uses Biodiesel

- The Energy Policy Act of 1992 requires certain fleets to purchase alternative fuel vehicles
- The Energy Conservation Reauthorization Act of 1998 allows credit for B20 use
- Every 450 gallons of B100 purchased counts as on credit

NORA

Mission Statement

Pathway To Rebuilding An Industry

“Change the public’s perception of oil heat, from a dirty, inefficient and environmentally damaging fuel source to a clean environmentally friendly versatile, efficient and cost competitive fuel”

Distillate Fuel Use in the Northeast

in Billions of Gallons (EIA 2002)

Transportation

- NY 0.956
- PA 1.383
- NE 1.054
- NJ 0.833
- MD/DE 0.555
- Total 4.781

Heating Oil

- NY 2.114
- PA 1.313
- NE 2.827
- NJ 0.519
- MD/DE 0.396
- Total 7.169

A “5 in 5” Program

- Establish a new heating oil formulation in the region comprised of 95% low sulfur heating oil and 5% biodiesel in 5 years
- This will require regional cooperation and acceptance by the petroleum industry and the heating oil marketers
- A 5 in 5 program establishes a new market for over 300 million gallons of biodiesel

Building an Industry

- The existing petroleum infrastructure needs to be part of the growth of a biodiesel industry
- Quality assurance is best served by terminal storage and blending of biodiesel
- As consumers increase their demand for biodiesel volume will be sufficient and sustained