

SBA GOOD BOOK OF BIODIESEL



TOOLS - FACTS - RESOURCES



THE SUSTAINABLE BIODIESEL ALLIANCE is dedicated to supporting large and small scale biodiesel users. From touring musicians to individual truck drivers to large fleets, the SBA is committed to developing tools and resources for the U.S. biodiesel community. Sustainability starts with asking the right questions, and choosing to purchase fuel made locally, with the environment and community in mind. For more information on the Sustainable Biodiesel Alliance visit us at **WWW.FUELRESPONSIBLY.ORG**

The Sustainable Biodiesel Alliance is a 501(c)3 non-profit organization committed to developing tools to support sustainable, community-based biodiesel, and to the development of a certification program for sustainability in U.S. Biodiesel. The SBA offers a host of free tools and resources to the biodiesel community and biodiesel users nation-wide. In addition to free tools, SBA members have access to a full suite of advanced sustainability surveys and energy impact calculators. For access to the SBA tools for sustainability and for more information on membership visit our website at **www.fuelresponsibly.org**.

Support Sustainable,
Community Based Biodiesel...

JOIN THE SBA TODAY!

- Our Community
- Our Environment
- Our Future

WWW.FUELRESPONSIBLY.ORG

SECTION 1. TOOLS

Temperature/Blend Calculators

**The SBA has developed a set of guidelines for biodiesel use in cold weather. Use the following charts to help determine appropriate blend based on feedstock and average temperature.*

- 1. Waste Vegetable Oil based biodiesel**
- 2. Soybean based biodiesel**
- 3. Canola based biodiesel**
- 4. Animal Fat based biodiesel**

The Questions You Need To Ask

**The SBA has developed a set of questions to use when purchasing biodiesel and biodiesel blends. These questions will help biodiesel users make more informed purchasing decisions and select fuel based on locality and sustainability criteria.*

- 1. Biodiesel Fueling Questionnaire**

Temperature Calculators for Biodiesel and Biodiesel Blends

Both petroleum based Diesel and Biodiesel fuels have a cloud point, or a temperature at which components of the fuel begin to solidify or “gel” this can cause fuel filtration problems and reliability issues. These issues can be avoided by knowing the materials or “feedstock” your biodiesel is produced from, the percentage blend of biodiesel you are using in your vehicles and the estimated low temperature in the area you are operating in. The following calculators are guidelines for Biodiesel blends based on feedstock and estimated low temperatures in the operation area.

**All figures based on current NREL, DOE and USDA materials.*

**All figures are intended as guidelines for estimation purposes and do not imply a guarantee of performance of any kind.*

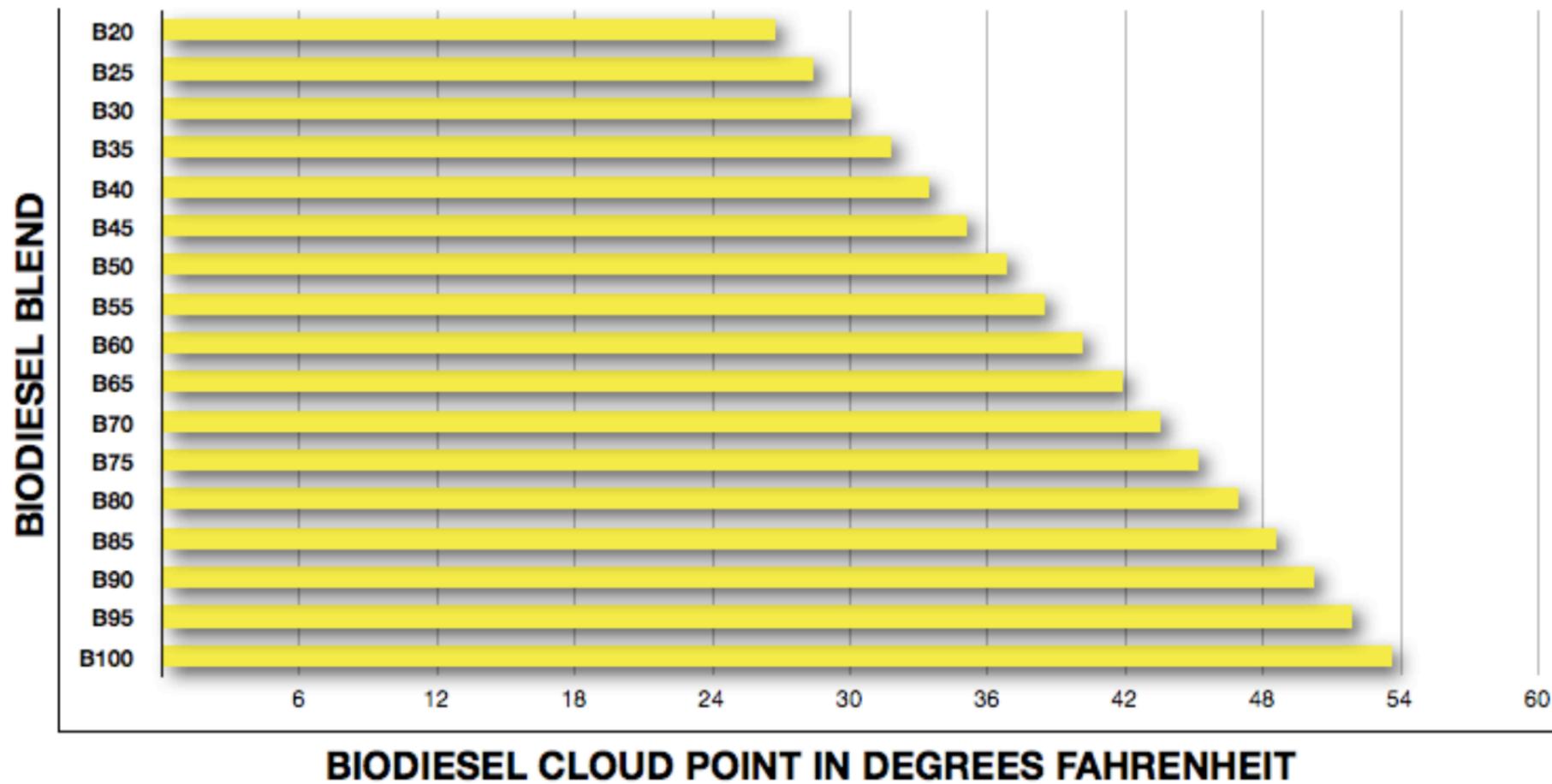
1. SOYBEAN - BIODIESEL

2. CANOLA - BIODIESEL

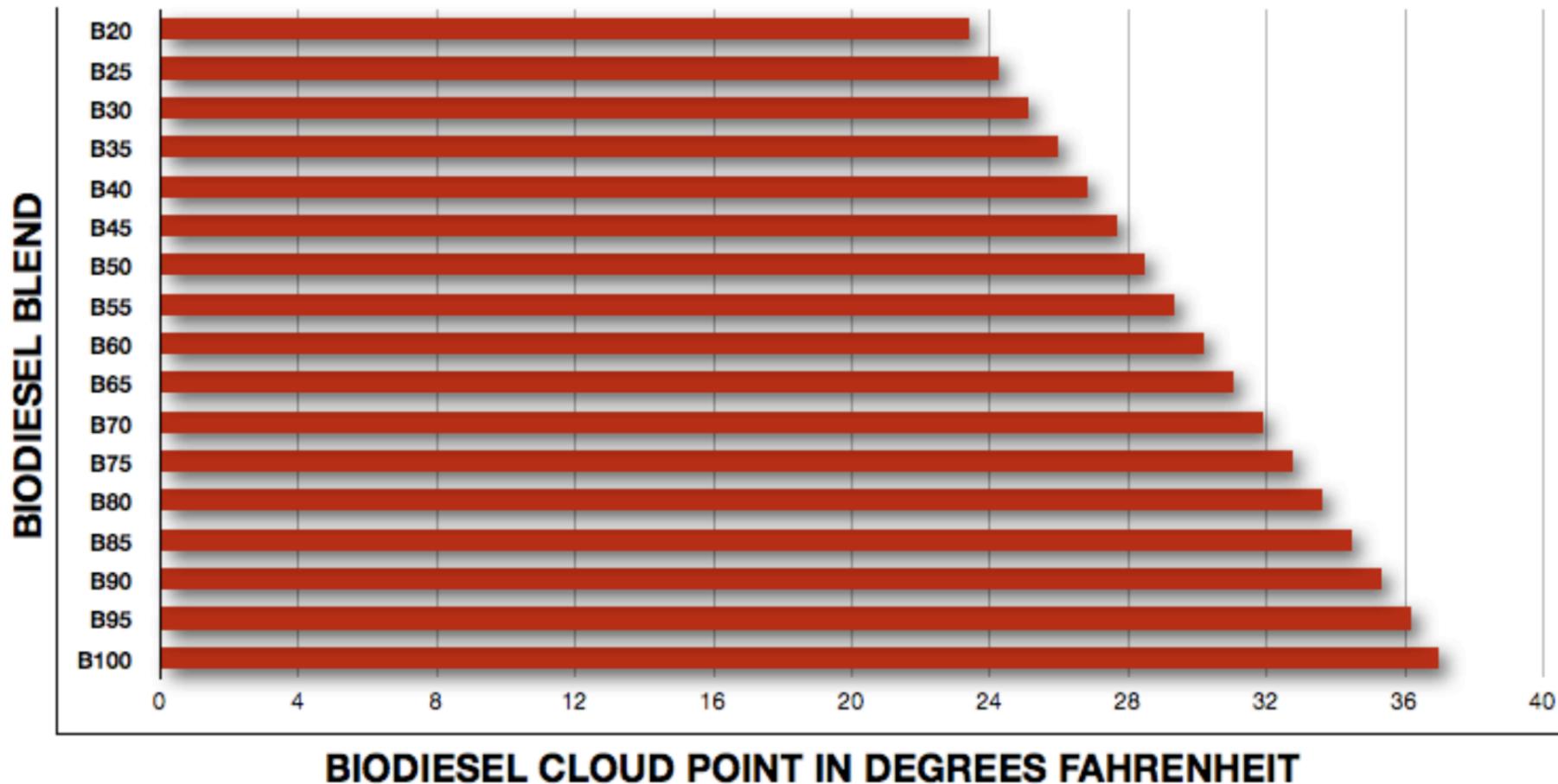
3. WASTE VEGETABLE OIL - BIODIESEL

4. ANIMAL FATS - BIODIESEL

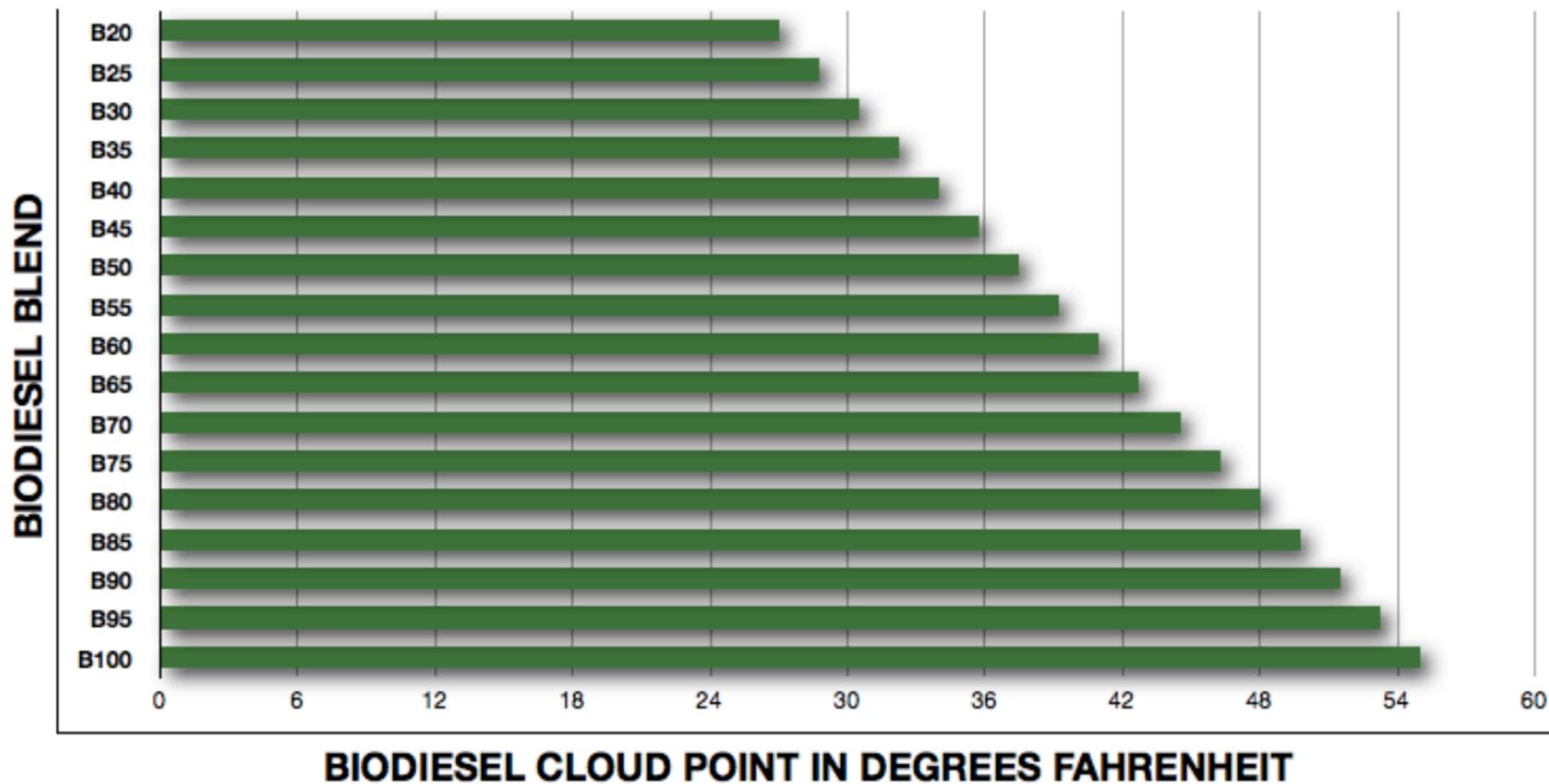
SOYBEAN OIL BIODIESEL CLOUD POINT CALCULATOR



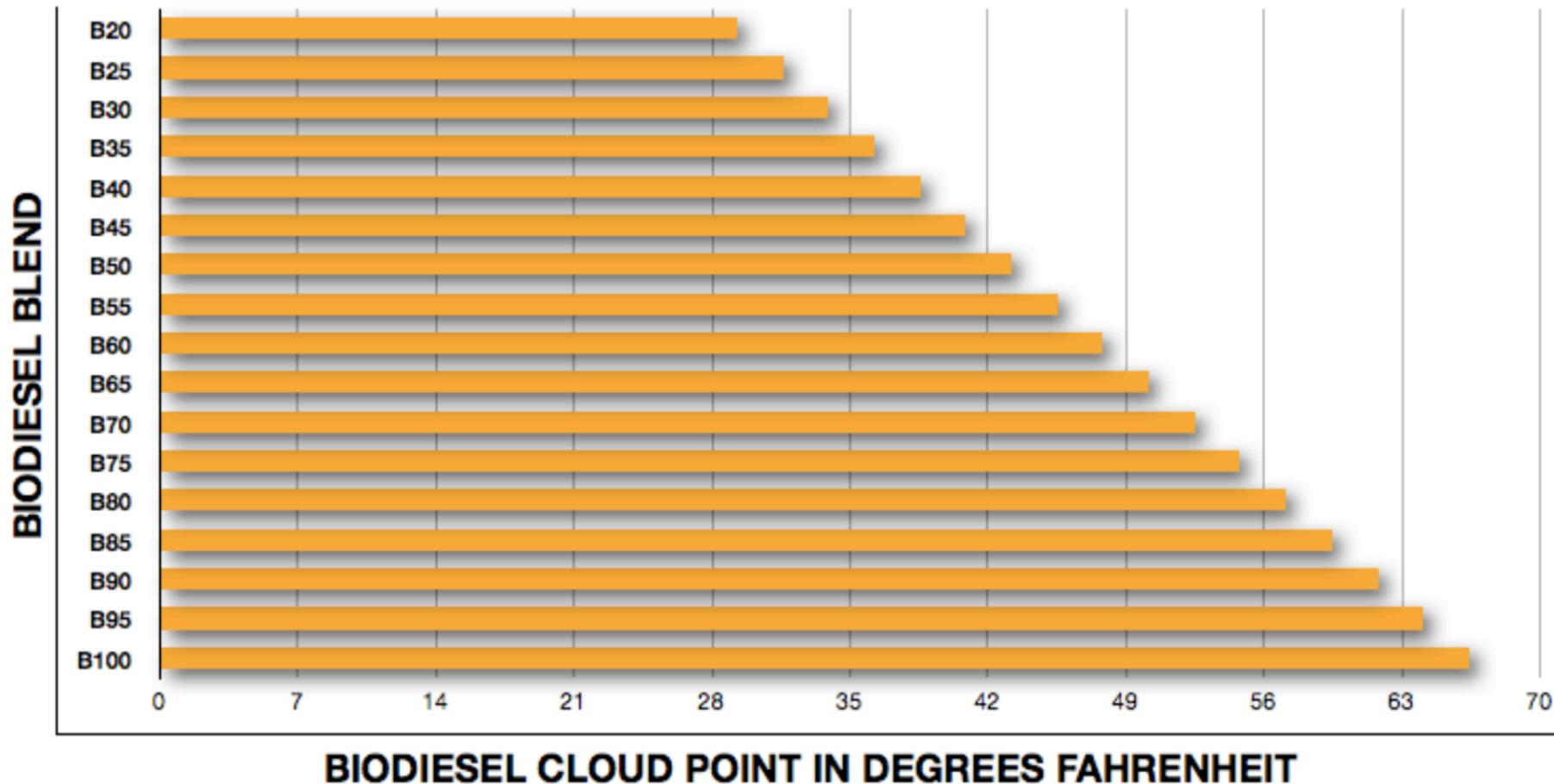
CANOLA BIODIESEL CLOUD POINT CALCULATOR



WASTE VEGETABLE OIL BIODIESEL CLOUD POINT CALCULATOR



ANIMAL FATS BIODIESEL CLOUD POINT CALCULATOR



THE QUESTIONS YOU NEED TO ASK

A Fueling Questionnaire for Biodiesel and Biodiesel Blends.

For the most part it is agreed that biodiesel is a positive alternative to petroleum diesel fuel. However it is clear that “not all biodiesel is created equal”. While some of the biodiesel in this country is created from waste streams such as used cooking oil and other local resources, some of the biodiesel sold in the U.S. is created from international feedstocks from Malaysia, and South America. While there is a clear reduction in harmful emissions when biodiesel is used as a replacement to petroleum based diesel, it is important to consider the environmental and social impacts of the entire life cycle of the fuel in question. For example the social and environmental cost of large scale feedstock production in Malaysia or South America, and the impact of transportation of such feedstocks thousands of miles via super tanker, rail etc.

The following set of questions will help biodiesel users understand more of the life cycle impacts of the fuel they are purchasing; and help guide purchasing decisions in the direction of a local, more sustainable product.

1. Is the fuel being delivered to your location or purchased at a fueling station?

Why is this important? Every time fuel is moved from one holding facility to another (ex: holding tank to transport truck) there is the possibility of contamination. It is also important to consider the distance the fuel has to travel to reach your location, or the distance you have to travel (off your route) to purchase fuel. Every mile traveled represents emissions into the atmosphere and gallons of available fuel burned.

2. Was an ASTM certificate of analysis provided with the fuel?

An ASTM certificate of analysis will determine whether the fuel in question has met the mandatory quality specifications to be sold for use in the United States. Fuel that does not meet these specifications is much more likely to cause mechanical and/or other operating issues. **The SBA recommends batch testing all purchased fuel with pHlip test or other quality testing method.*

3. How far from the fueling location was this biodiesel produced?

It is always important to consider the distance fuel is traveling. The distance the fuel travels from the production facility to the distributor, and then from the distributor to the point of fueling needs to be considered when making purchasing decisions.

4. What feedstock was used to create this biodiesel?

One reason it is important to determine the feedstock used to create the fuel you are purchasing is to determine best operating conditions (temperature vs. blend) for the blend of biodiesel being used. This can help avoid unnecessary mechanical issues.

5. Where was this feedstock grown or collected?

It is always important to determine the locality of the feedstock used for the fuel being purchased. The distance feedstock has to travel from the point of harvest or collection to the point of production and ultimately the point of use is directly related to the environmental benefit of the fuel in question. It is also important to consider, when you purchase locally made fuel you are supporting the local economy of that community, and helping secure crucial jobs.

6. Does the fuel provider use biodiesel or alternative fuels in their equipment?

While many of us take time to consider our own impact on our community and environment it is also important to support businesses who support their own communities and ecosystems through local purchasing and incorporation of alternative fuel and power in their operations. *For example is the delivery truck providing your biodiesel running on biodiesel or biodiesel blends?*

SECTION 2. FACTS

THE FACTS ABOUT BIODIESEL

In this section you will find answers to some of the common questions asked about biodiesel and biodiesel use. You will also find the truth behind some of the claims made about biofuels and biodiesel. Use this information to make your own decisions and to arm yourself with the facts, so you can defend your choice to use locally produced, sustainable biodiesel.

For more information on sustainable biodiesel visit the SBA at www.fuelresponsibly.org

The Sustainable Biodiesel Alliance understands that the facts and fiction of biodiesel can be confusing. The media today is full of contradictions and misinformation, sometimes showing biodiesel as a part of the solution, and at times painting biodiesel as part of the problem. The following information is designed as a tool to answer some of the most important questions about biodiesel and the biodiesel industry today. The SBA is dedicated to promoting sustainable practices in the U.S. biodiesel industry and to helping the biodiesel user of today ask the right questions to educate themselves.

1. Question: Can biodiesel be used in regular diesel cars and trucks?

Answer: Yes.

Biodiesel can be used in most diesel engines with little or no modification.

Biodiesel can be operated in any diesel engine with little or no modification to the engine or the fuel system. Biodiesel has a solvent effect that may release deposits accumulated on tank walls and pipes from previous diesel fuel storage. The release of deposits may clog filters initially and precautions should be taken. Ensure that only fuel meeting ASTM biodiesel specifications is used.

2. Question: Does biodiesel produce lower levels of harmful GHG emissions?

Answer: Yes.

The emissions produced using biodiesel are significantly lower than those produced by petroleum diesel use.

The use of biodiesel in a conventional diesel engine results in substantial reduction of unburned hydrocarbons, carbon monoxide, and particulate matter compared to emissions from diesel fuel. In addition, the exhaust emissions of sulfur oxides and sulfates (major components of acid rain) from biodiesel are essentially eliminated compared to diesel.

3. Question: Does biodiesel require less energy to produce than petroleum diesel?

Answer: Yes.

According to the USDA and the DOE biodiesel production is more than 3 times more efficient than the production of petroleum diesel.

*Energy Balance of Biodiesel production = 3.2

*Energy Balance of Petroleum Diesel production = 0.8

**2007 NREL, 2008 NBB*

4. Question: Is biodiesel responsible for rising food costs and world hunger?

Answer: Food costs are more affected by rising energy costs than the cost of commodities such as biodiesel feedstocks.

According to the US Secretary of Agriculture, Ed Schaffer “biofuels production are responsible for 2 to 3 percent of the increase in global food prices, while biofuels have reduced consumption of crude oil by a million barrels a day.” According to Chick Conner, former Secretary of Agriculture “About 80 cents of every retail dollar spent on food goes to cover processing, packaging, distribution and marketing costs. Of course you recognize all of those are very, very intensive consumers of energy and directly impacted by rising energy costs.” **USDA 2008*

5. Question: Is biodiesel responsible for the mistreatment of indigenous people in South America?

Answer: Claims have been made linking the large-scale production of feedstocks including palm oil in South America to the mistreatment of indigenous cultures.

**HRE (Human Rights Everywhere) 2008*

continued...

While it is true that a some of the biodiesel sold in the United States comes from feedstocks grown in South America, there is biodiesel available nation-wide made from a variety of local feedstocks that do not threaten indigenous cultures or ecosystems and support local U.S. communities.

6. Question: Is biodiesel responsible for the destruction of valuable rain forest ecosystems in Malaysia?

Answer: Claims have been made linking the production of Palm Oil in Malaysia and Indonesia to the continued destruction of rainforest ecosystems. **Greenpeace 2008*

While it is true that NGO's including Greenpeace have made claims linking the production of palm oil in Malaysia and Indonesia to the continued destruction of rainforest ecosystems, it is also important to realize that while the United States imports hundreds of millions of gallons of palm oil only 7% is used for biofuel production. The remaining 93% is used in the cosmetic and food industries. In addition, there is biodiesel available nation-wide made from a variety of local feedstocks that do not threaten indigenous cultures or ecosystems.

INTERESTING BIODIESEL FACTS

- Biodiesel can be made from a variety of sources including waste products like yellow and brown grease, animal fats like tallow and poultry fats, and many non-food crops like cotton seed, canola, sunflower and hemp.
- When biodiesel is created and used with a community-based model, 90 cents of every dollar stays in the community.
**University of West Virginia 2009*
- Using a local, sustainable model, biodiesel production can create local jobs and local energy security. While minimizing environmental impact, and maximizing positive impact to the community.
- The Grocery Manufacturers of America, the Washington, D.C. trade association representing many of the largest food companies in the world, is spending millions of dollars on a public relations campaign to blame biofuels for rising food prices. The GMA is responsible for the phrase “Food vs. Fuel” that has been popularized by today’s media.

FOR MORE INFORMATION ON THE SBA...

