



## *Biodiesel feedstock: number of plants, total capacity, and locations as of January 2008*

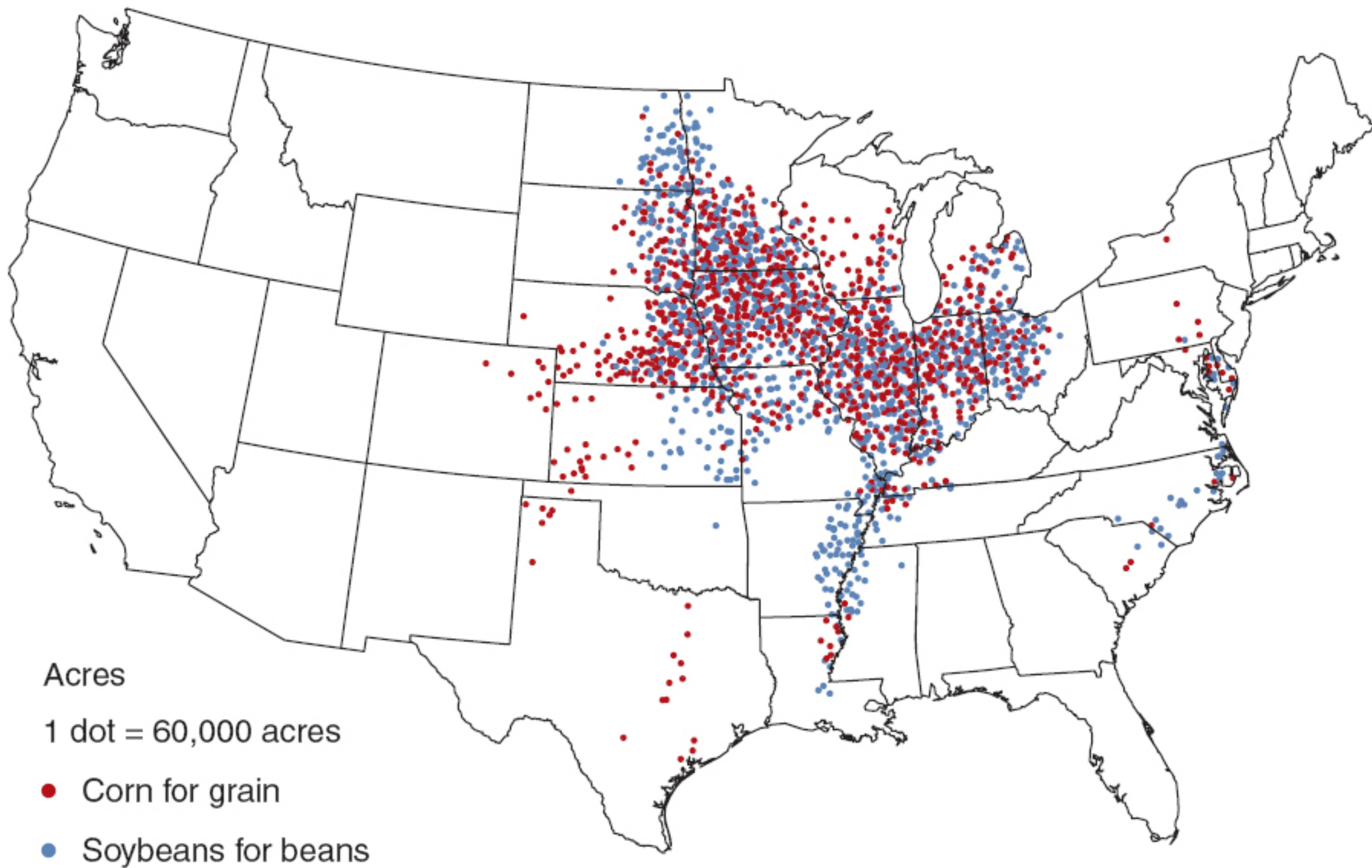
<b>Primary feedstock(s)</b>	<b>Number of plants</b>	<b>Total capacity (million gallons)</b>	<b>States (number of plants)</b>
Multi-feedstock <sup>1</sup>	83	1132.75	AL (1), AZ (1), AR (2), CA (6), CN (1), FL (1), GA (3), HI (2), IL (1), IN (2), IA (4), KS (1), KY (1), MD (1), MI (3), MN (1), MS (4), MO (4), NV (2), NJ (2), NM (1), NC (6), OH (3), OK (1), OR (1), PA (2), SC (1), TN (4), TX (12), UT (1), VA (2), WA (6)
Soybean oil	59	896.05	AL (3), CN (1), GA (3), ID (1), IL (3), IN (3), IA (8), KY (2), LA (1), MD (1), MN (2), MO (4), NE (2), ND (1), OH (3), PA (5), RI (1), SC (2), SD (1), TN (5), TX (3), VA (1), WA (1), WV (1), WI (1)
Canola	5	91	KS (1), ND (1), OR (1), TX (2)
Yellow grease	1	18	FL (1)
Palm	1	15	TX (1)
Cottonseed	1	12	TX (1)
Recycled cooking/waste veg oil	8	10.85	CA (1), KS (1), MA (1), MN (1), RI (1), TX (2), WA (1)
Animal fat/tallow	3	7	NE (1), TX (1), GA (1)
Corn	1	2	IA

Source: Adapted from National Biodiesel Board.

<sup>1</sup> Multi-feedstock refers to the plant's capacity to process vegetable oils, animal fats, recycled cooking oil, or yellow grease.

Figure 2.3

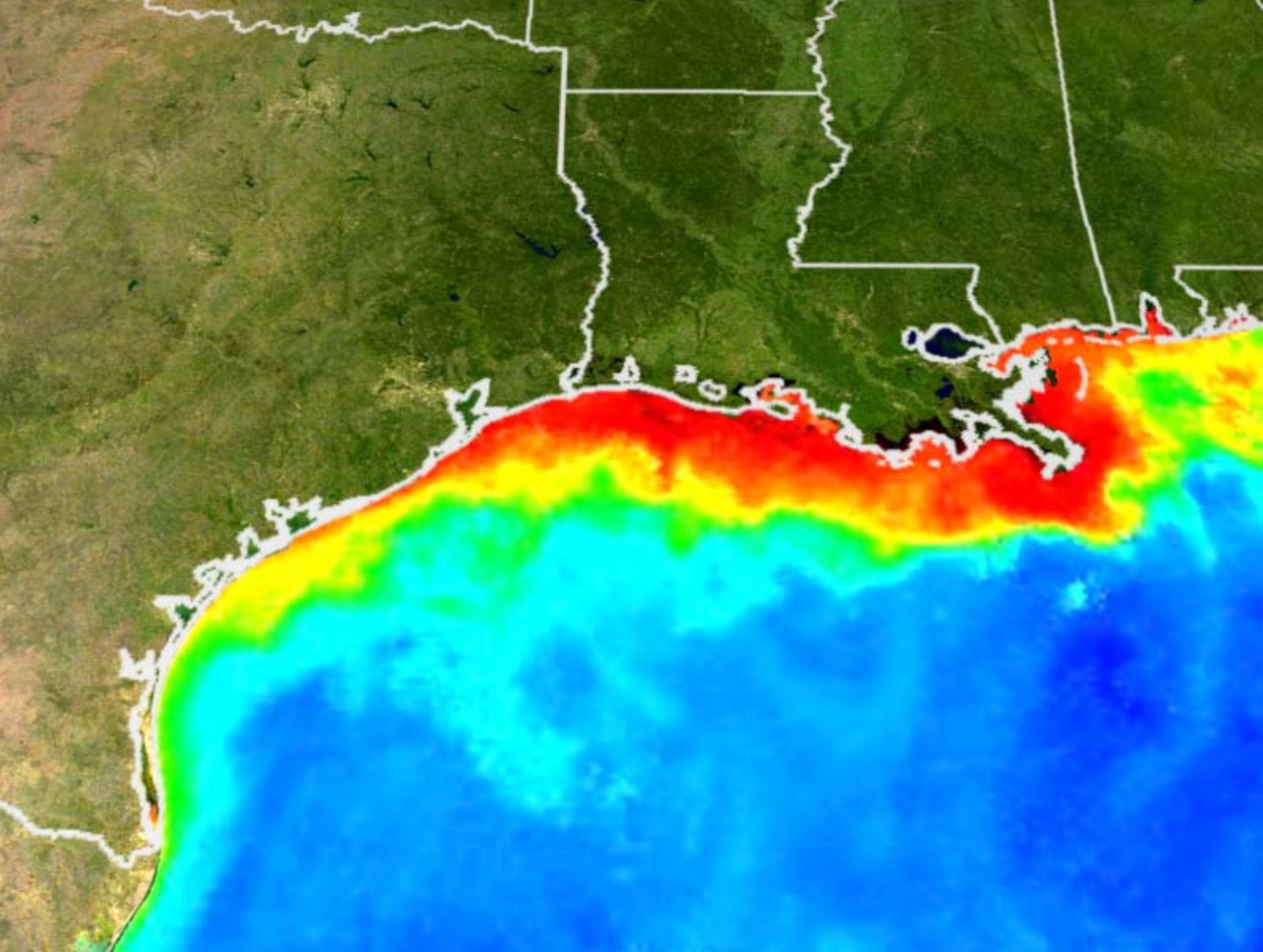
## Corn and soybean acres



Source: USDA/NASS, 2002 Agricultural Census.

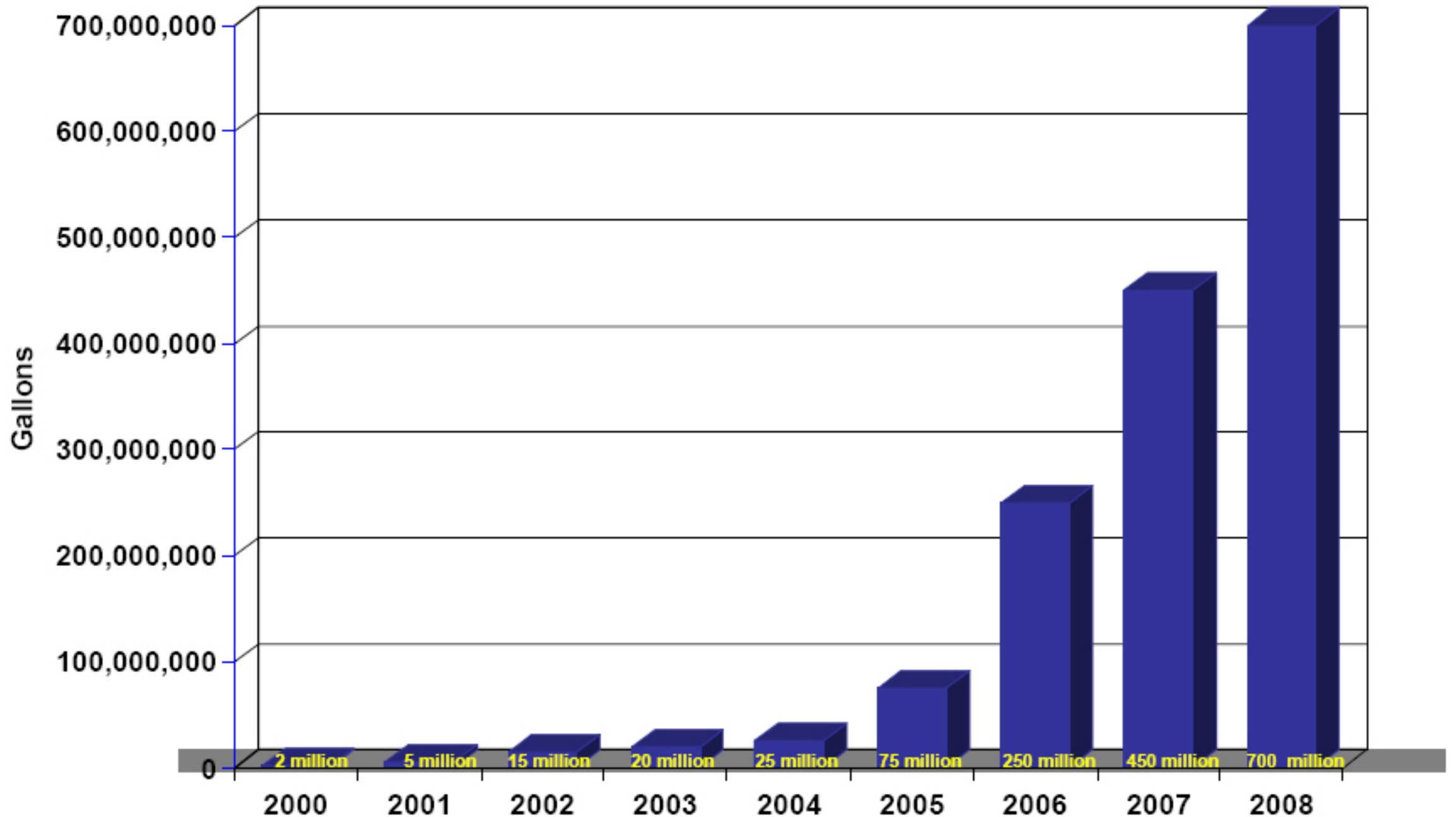








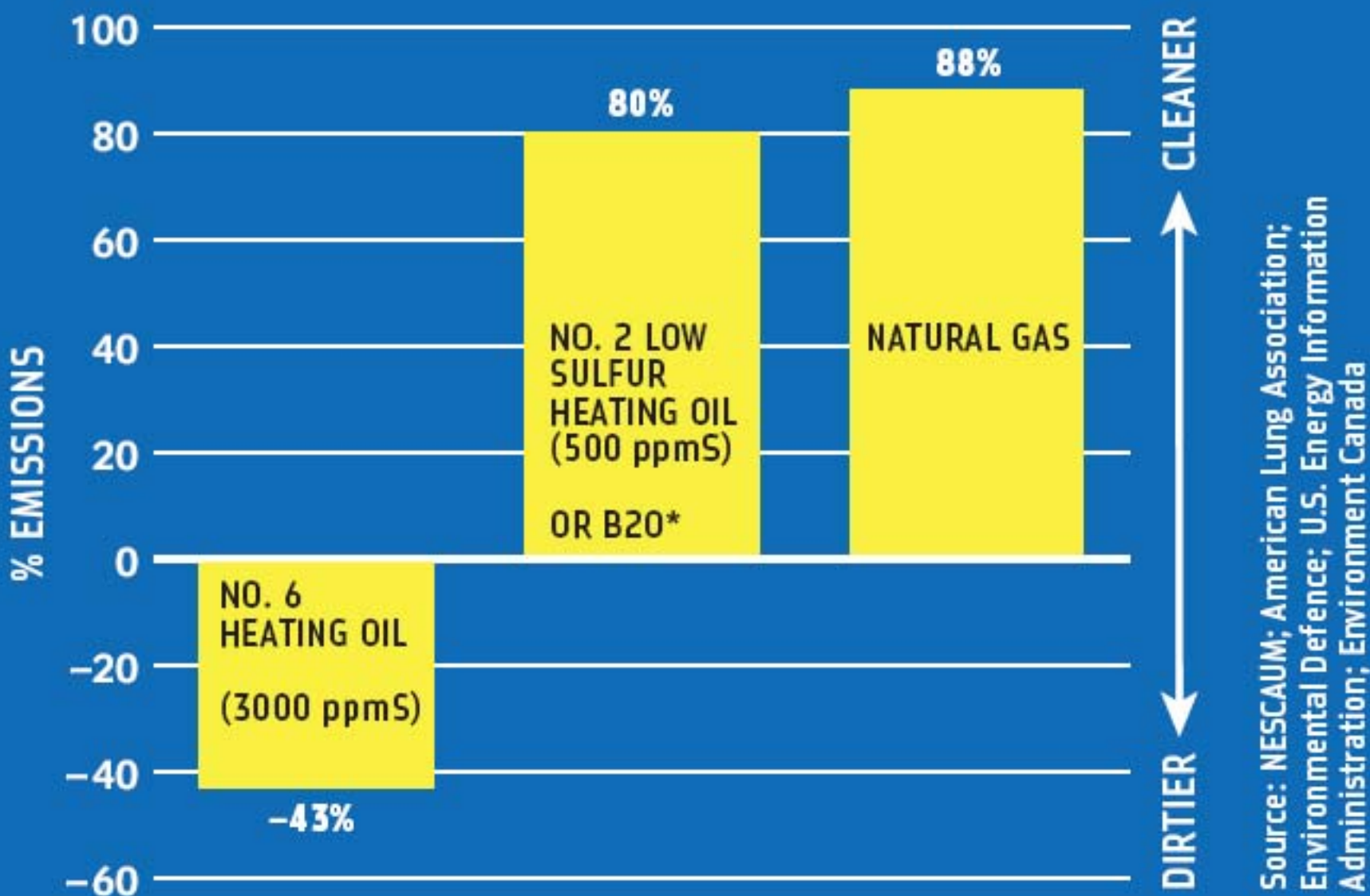
# Estimated US Biodiesel Production by Fiscal Year (Oct 1 – Sept 30)





# Comparison of Heating Fuel Emissions

Percentage Reduction in Particulate Matter Emissions Relative to No. 2 heating oil (2000–2500 parts per million Sulfur)



*\*B20 is a blend of 80% No.2 Low Sulfur Heating Oil with 20% Biodiesel*

Source: NESCAUM; American Lung Association; Environmental Defence; U.S. Energy Information Administration; Environment Canada

## Subsidies to ethanol and biodiesel

	Ethanol				Biodiesel			
	2006	2007	2008	2006–2012	2006	2007	2008	2006–2012
Total subsidies (\$ billions/year)	5.8–7.0	6.9–8.4	9.2–11	Total 67–82	0.53–0.65	1.2–1.5	1.5–1.9	Total 9.0–10.8
Per gallon biofuel consumed (\$ gallon)	1.1–1.3	1.1–1.3	1.1–1.3	Average 1.0–1.2	2.1–2.6	1.6–2.1	1.7–2.1	Average 1.8–2.2
Per gigajoule (\$ /GJ) produced	12–14	12–14	12–14	Average 12–14	17–21	13–17	13–17	Average 14–17
Per gallon of petrol or diesel equivalent (\$ /GGE or \$ /GDE)	1.4–1.7	1.4–1.7	1.5–1.7	Average 1.4–1.7	2.3–2.8	1.8–2.3	1.8–2.3	Average 2.0–2.4

Source: main report.

## *Cost of production for biofuels from selected feedstocks*

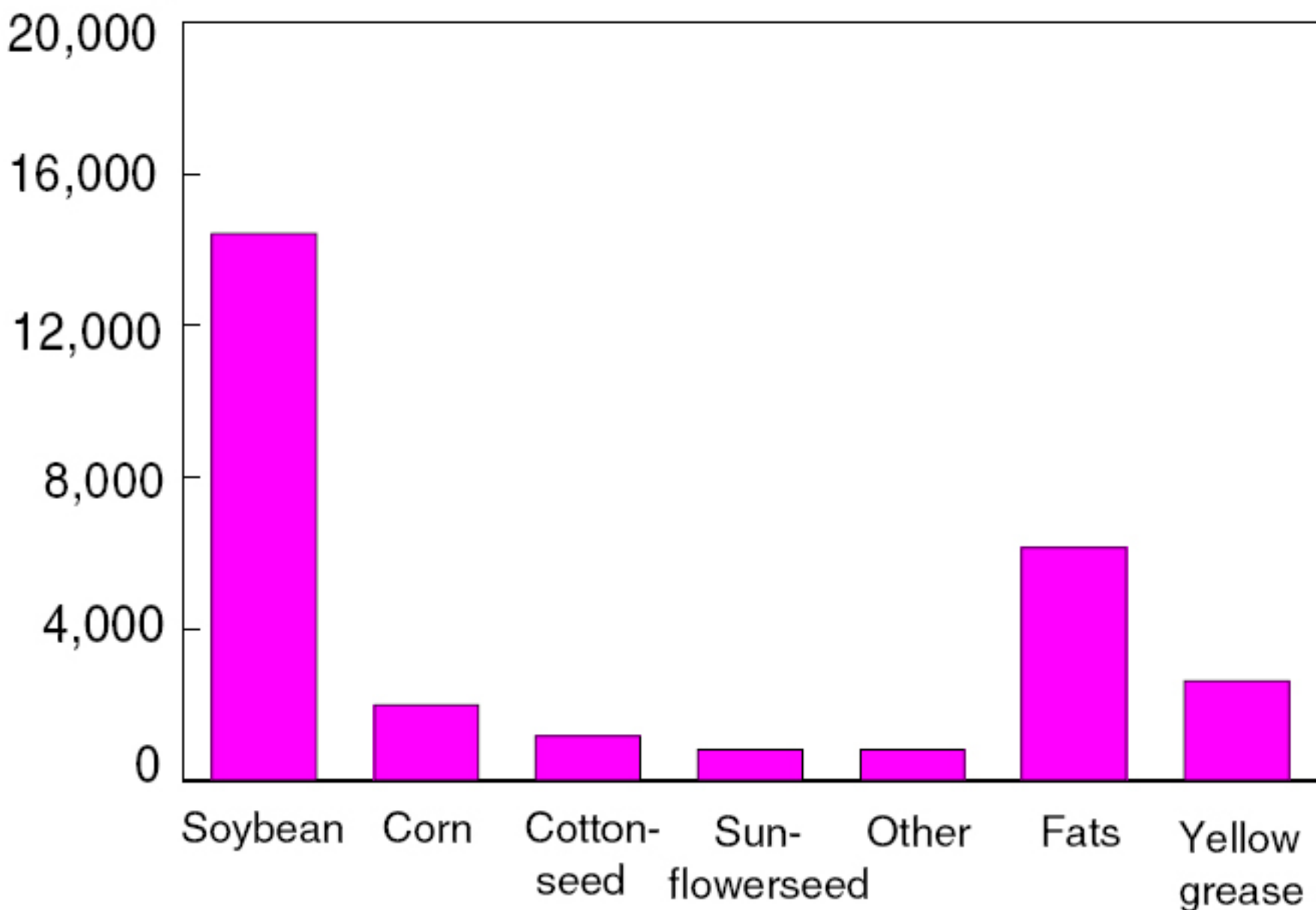
Biofuel/Country	Feedstock	Feedstock (percent of total)	Total production costs
		Percent	\$ per gallon
<b>Biodiesel</b>			
United States	Soybean oil	80-85	2.50
Malaysia	Palm oil	80-85	2.04
EU	Rapeseed	80-85	3.29
India	<i>Jatropha</i>	80-85	1.99
<b>Diesel</b>			
United States	Diesel	75	1.50
<b>Ethanol</b>			
United States	Corn	39-50	1.50
United States	Cellulosic sources	90	2.69
Brazil	Sugarcane	37	0.98
EU	Wheat	68	2.23
EU	Sugar beets	34	2.88
<b>Gasoline</b>			
United States	Gasoline	73	1.29

Source: IMF (2007)

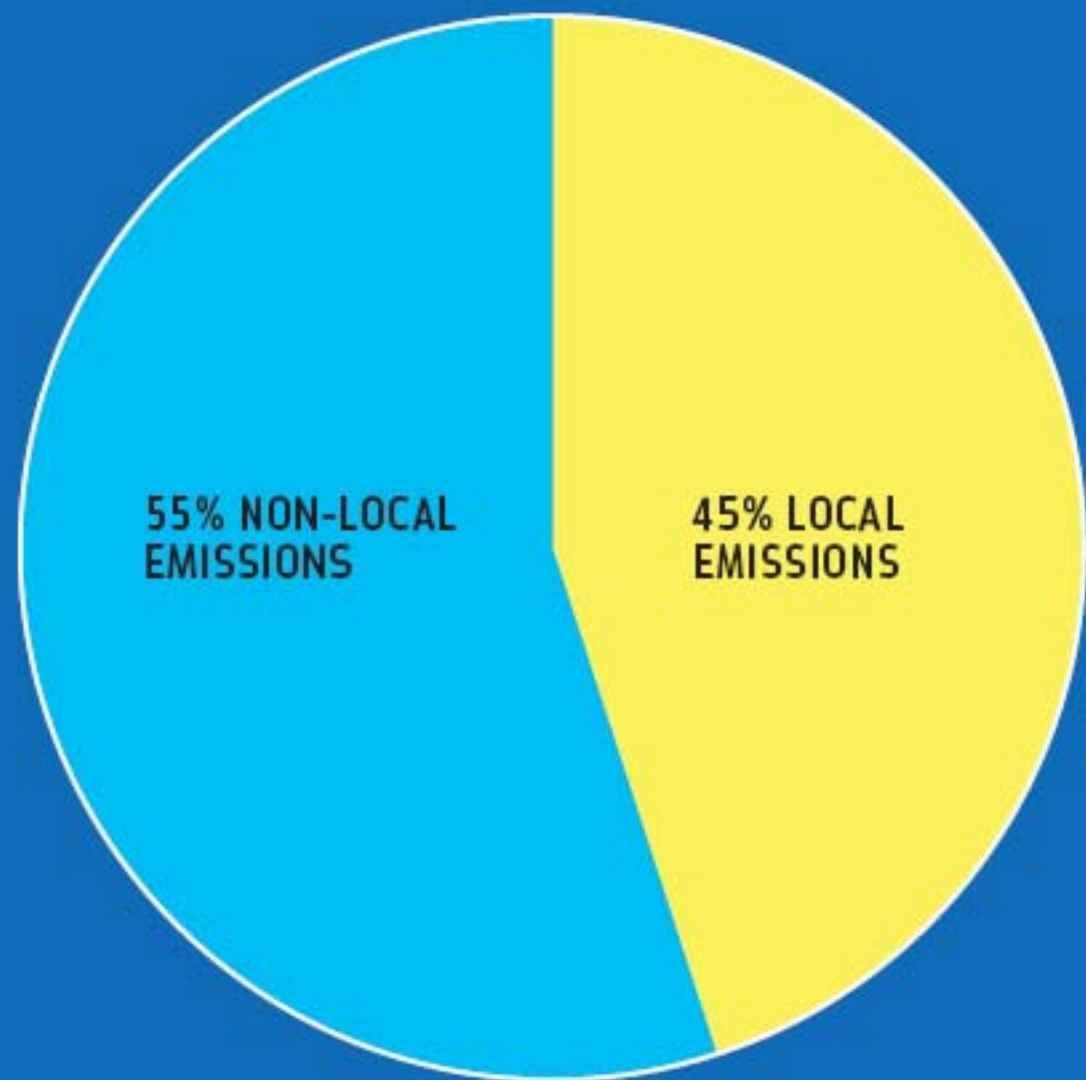
# U.S. supply of potential biodiesel feedstocks

*Total production of oil from potential biodiesel feedstock is about 29 billion pounds per year*

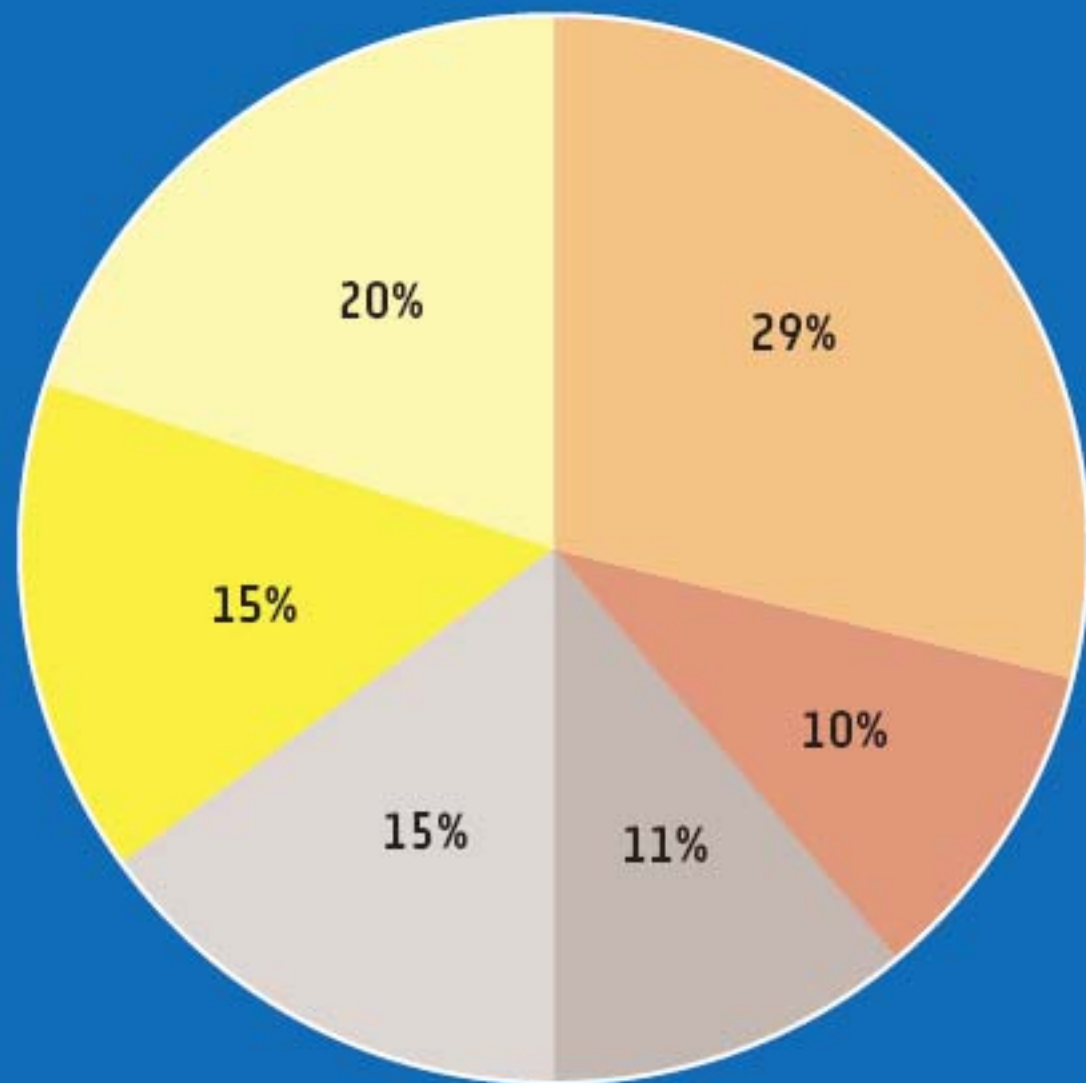
Million pounds of oil



## Non-Local vs. Local Emissions

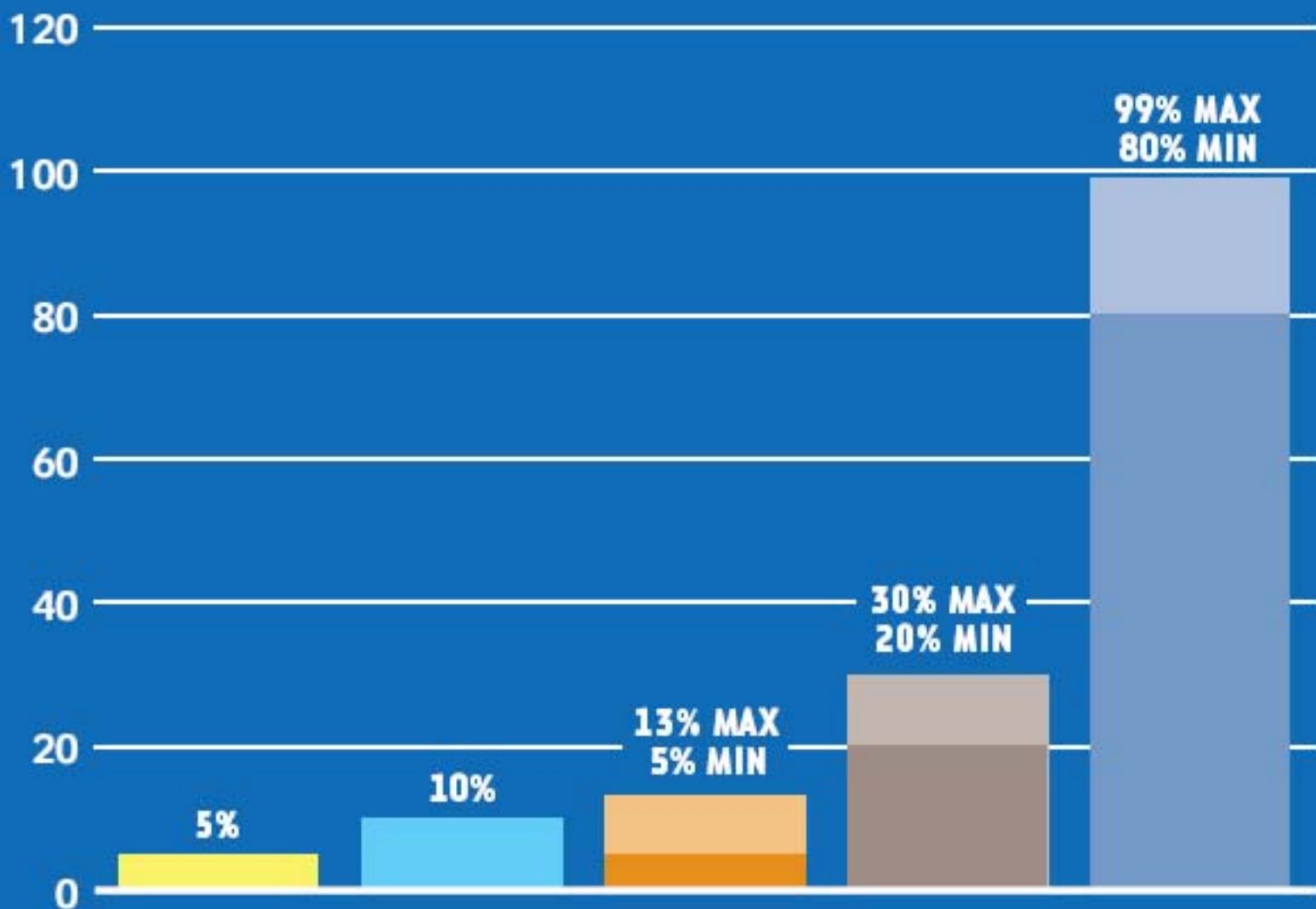


## Local PM 2.5 Emission Sources



Source: U.S. Environmental Protection Agency

# Diesel Fuel Emission Reductions in Particulate Matter Relative to Low Sulfur Diesel\*



- B5 (Blend of 95% Ultra Low Sulfur Diesel with 5% Biodiesel)
- B20 (Blend of 80% Ultra Low Sulfur Diesel with 20% Biodiesel)

- Ultra Low Sulfur Diesel\*\*
- Ultra Low Sulfur Diesel with DOCs\*\*\*
- Ultra Low Sulfur Diesel with DPFs\*\*\*\*