



Iowa Department of
REVENUE

2013 Retailers Motor Fuel Gallons
Annual Report

Revised April 2014

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Introduction

In 2006 the Iowa General Assembly enacted H.F. 2754, an act pertaining to the regulation of renewable fuels and energy and providing incentives for the installation of biofuels infrastructure and the promotion of biofuels sales. This legislation established a goal that 25 percent of all petroleum used in the formulation of gasoline be replaced by biofuels by the year 2020.

To measure the State's progress toward achieving this goal, new reporting requirements for motor fuel retailers, administered by the Department of Revenue, were established (Iowa Code section 452A.33). In consultation with the Renewable Fuels Infrastructure Board, motor fuel retailers, and other interested parties, the Department established an annual reporting requirement by administrative rule (701-67.27).

Annual reports are due to the Department by January 31st for each subsequent year. However, because there are no penalties imposed for not filing a report, the information provided in this report does not reflect all retail motor fuel sales in the state. Motor fuel retailers filed the first annual report for sales made during calendar year 2007.

Reporting Requirements

Motor fuel retailers shall file either a paper form or an electronic file with annual motor fuel sales by location. The Retailers Motor Fuel Gallons Annual Report requires retailers to provide information on retail gallons sold for the following fuel types:

- Gasoline (non-ethanol blend)
- Ethanol E10 blend (10 to 14 percent ethanol)
- Ethanol E15/E20 blend (15 to 69 percent ethanol)
- Ethanol E85 blend (70 to 85 percent ethanol)
- Clear diesel (all blends)
- Dyed diesel (all blends)

The distinction between clear diesel and dyed diesel reflects whether the fuel is subject to State and federal road taxes. Dyed diesel fuel is not subject to road taxes and is sold for use in farm, construction, and other types of equipment that do not travel under their own power on public roads, except for short distances such as between farm fields.

For biodiesel additional detailed information is required for the sales of the following fuel blends:

- Clear B2 (2 percent biodiesel)
- Clear B5 (5 percent biodiesel)
- Clear B10 (10 percent biodiesel)
- Clear B20 (20 percent biodiesel)
- Clear Biodiesel Other
- Dyed B2 (2 percent biodiesel)

- Dyed B5 (5 percent biodiesel)
- Dyed B10 (10 percent biodiesel)
- Dyed B20 (20 percent biodiesel)
- Dyed Biodiesel Other

Statistical Summary for 2013

The Department identified 2,635 potential retail locations at which motor fuel may have been sold during 2013. Paper report forms were mailed to 1,685 locations identified using Department of Agriculture and Land Stewardship motor fuel license information and the Department of Revenue motor fuel tax database. Electronic report files were e-mailed to thirteen large motor fuel retailers with 950 locations that submitted their annual sales data electronically in prior years.

The Department received either paper forms or electronic files representing 2,300 (87.3%) of the locations. Replies from 145 locations indicated that no retail sales of any type of motor fuel were made during 2013. 2,155 locations reported retail motor fuel sales (see Table 1).

Of the reporting retail locations, 2,016 (93.6%) reported selling E10 blend motor fuel, 83 (3.9%) reported selling E15/E20, 206 (9.6%) reported selling E85, and 372 (17.3%) reported selling one or more of the various blends of biodiesel. Biofuel sales by these locations are summarized below and in Table 1.

Gasoline Fuel Sales

During 2013, the reported amount of E10 gasoline sold equaled 1,182.3 million gallons, the amount of E85 gasoline sold equaled 11.2 million gallons, and the amount of E15/E20 gasoline equaled 5.4 million gallons. Combined, the three ethanol blends represented 82.2 percent of total gasoline motor fuel sales during the year. 2,034 (96.1 %) of the 2,117 locations that sold gasoline motor fuels sold one or more ethanol blend.

Because over twelve percent of locations did not return their Retailers Motor Fuel Gallons Annual Report to the Department for 2013, gallons from the Department's Monthly Motor Fuel Tax Reports were used to estimate the amount of underreporting of gasoline sales. The gallons presented in the Monthly Motor Fuel Tax Reports reflect taxable motor fuel shipped from terminals rather than gallons sold at retail locations. Because the Monthly Motor Fuel Tax Reports reflect fuel shipments made during the prior month, taxable gallons reported in the monthly reports covering February 2013 through January 2014 were compared with gallons reported as sold by retailers completing the annual report. During this period, motor fuel taxes were paid on a total of 1,616.3 million gallons of gasoline fuels. In comparison, the 87.2 percent of retail locations that filed annual reports indicated 1,458.5 million gallons of gasoline fuels were sold, including all ethanol blends and non-ethanol gasoline, which equals 90.2 percent of taxable gallons reported for 2013.

Table 1. Iowa Gasoline, Diesel, and Biofuel Sales for Calendar Year 2013

Data Description	Locations	Gallons	Pure Petroleum/Diesel	Pure Biofuel
Gasoline (Non-Ethanol)	1,844	259,600,967	259,600,967	0
Ethanol				
E10	2,016	1,182,293,271	1,064,063,944	118,229,327
E15/E20	83	5,417,314	4,604,716	812,597
E85	206	11,152,763	2,342,080	8,810,683
Total Ethanol	2,034	1,198,863,348	1,071,010,741	127,852,607
Total Gasoline and Ethanol	2,117	1,458,464,315	1,330,611,708	127,852,607
Ethanol Share	96.1%	82.2%		8.8%
Clear Diesel (Non-Biodiesel)	1,275	234,033,322	234,033,322	0
Clear Biodiesel				
B2 Clear	67	13,627,559	13,355,008	272,551
B5 Clear	267	80,148,715	76,141,279	4,007,436
B10 Clear	141	72,410,451	65,169,406	7,241,045
B20 Clear	31	25,235,740	20,188,592	5,047,148
Other Clear	46	122,000,484	111,440,982	10,559,502
Subtotal Clear Biodiesel	339	313,422,949	286,295,267	27,127,682
Clear Biodiesel Share	21.0%	57.3%		8.7%
Total Clear Diesel		547,456,271	520,328,589	27,127,682
Dyed Diesel (Non-Biodiesel)	313	125,137,732	125,137,732	0
Dyed Biodiesel				
B2 Dyed	41	1,527,217	1,496,673	30,544
B5 Dyed	91	27,910,748	26,515,211	1,395,537
B10 Dyed	22	1,167,037	1,050,333	116,704
B20 Dyed	23	679,424	543,539	135,885
Other Dyed	41	3,097,403	2,931,202	166,201
Subtotal Dyed Biodiesel	125	34,381,829	32,536,957	1,844,872
Dyed Biodiesel Share	28.5%	21.6%		5.4%
Total Dyed Diesel		159,519,561	157,674,689	1,844,872
Total Biodiesel	372	347,804,778	318,832,224	28,972,554
Total Diesel and Biodiesel	1,334	706,975,832	678,003,278	28,972,554
Biodiesel Share	27.9%	49.2%		4.1%
Total Fuel All Types	2,155	2,165,440,147	2,008,614,985	156,825,161
Pure Biofuels Share of Gasoline and Diesel				7.2%
Biofuel Distribution Percentage				10.8%

Source: 2013 Retailers Motor Fuel Gallons Annual Reports

Diesel Fuel Sales

During 2013, based on annual reports submitted to the Department, the amount of clear biodiesel sold equaled 313.4 million gallons, or 57.3 percent of total clear diesel fuel sales. Retailers reported selling 547.5 million of gallons of clear diesel fuel. In comparison, the number of taxable (clear) gallons of diesel fuel shipped during 2013 as reported on the Monthly Motor Fuel Tax Reports equaled 688.4 million. Therefore, retailers completing annual reports for 2013 accounted for 79.5 percent of diesel fuel on which motor fuel taxes were paid.

Also, during 2013, 159.5 million gallons of dyed (non-taxed) diesel fuel sales were reported on the annual reports, including 34.4 million biodiesel gallons (21.6%). Dyed diesel gallons are not captured in the Monthly Motor Fuel Tax Reports.

Based on the annual reports, 1,275 locations sold clear diesel fuel and 339 of these locations sold clear biodiesel fuel during 2013. In addition, 313 locations sold dyed diesel fuel and 125 of these locations sold dyed biodiesel fuel during 2013.

Total diesel gallons reported were 707.0 million gallons and total biodiesel gallons were 347.8 million gallons; therefore, biodiesel blended gallons accounted for 49.2 percent of diesel gallons sold by reporting retailers.

Biofuel Distribution Percentage

The primary purpose of this report is to provide the information needed to determine the State's progress toward replacing 25 percent of petroleum-based motor fuels with biofuels by the year 2020. Table 1 provides estimates of the breakdown between petroleum or diesel and pure biofuel for each fuel type.

For the purpose of measuring progress toward that goal, the following computations were made to estimate the amount of each type of fuel sold that was pure biofuel:

- For E10 blend gasoline fuel the number of gallons was multiplied by 0.10
- For E15/20 blend gasoline fuel the number of gallons was multiplied by 0.15
- For E85 blend gasoline fuel the number of gallons was multiplied by 0.79
- For B2 blend diesel fuel the number of gallons was multiplied by 0.02
- For B5 blend diesel fuel the number of gallons was multiplied by 0.05
- For B10 blend diesel fuel the number of gallons was multiplied by 0.10
- For B20 blend diesel fuel the number of gallons was multiplied by 0.20
- For other biodiesel blends the number of gallons was multiplied by the average pure biodiesel share for the other four blends (for clear other biodiesel: 0.087 and for dyed other biodiesel 0.054)

These calculations indicate that during 2013 pure ethanol comprised 8.8 percent of the volume of total gasoline and ethanol fuel sales. The aggregate ethanol gallonage, which is the number of pure ethanol gallons sold by retailers during 2013, was 127.9 million gallons. Pure biodiesel comprised 4.1 percent of diesel and biodiesel sales. The aggregate biodiesel gallonage, which is the number of pure biodiesel gallons sold by retailers during 2013, was 29.0 million gallons. Together, pure ethanol and pure biodiesel comprised 7.2 percent of all motor fuel sales reported by retail locations. However, the formula specified in Iowa Code 452.31 (8) for the biofuel distribution percentage used to determine progress toward meeting the 25 percent biofuels goal does not include diesel fuel in its denominator. The formula is:

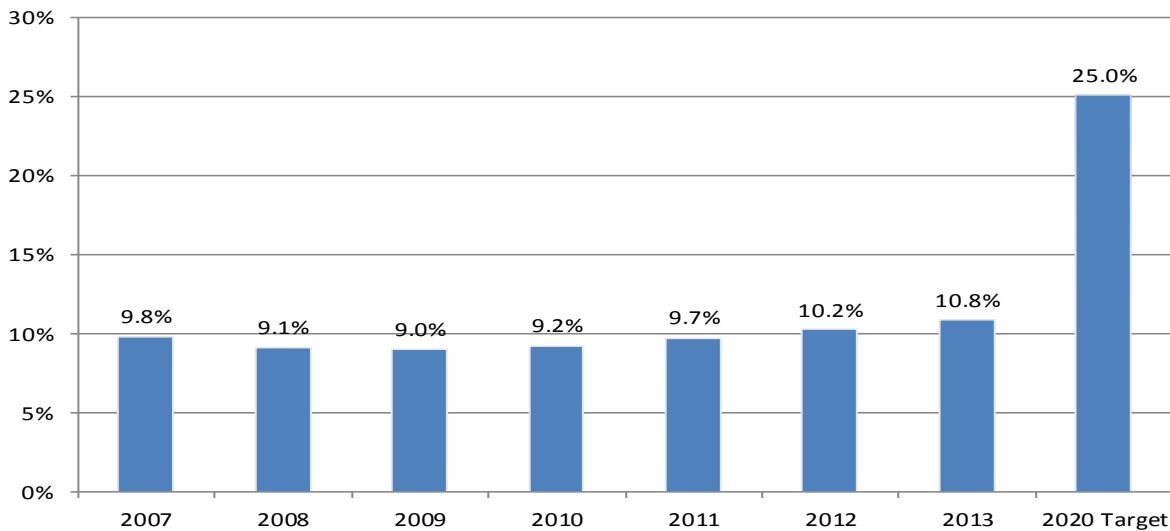
$$\text{Biofuel Distribution Percentage} = \frac{\text{Pure Ethanol Gallons} + \text{Pure Biodiesel Gallons}}{\text{Total Gasoline Gallons}}$$

Using this formula, during 2013 biofuels accounted for 10.8 percent of Iowa retail motor fuel sales. This is an increase from the 10.2 percent calculated for 2012.

Figure 1 represents the biofuel distribution percentage reported in the 2007 through the current Retailers Motor Fuel Gallons Annual Reports. The jump in the biofuel distribution percentage in 2011 reflected a near doubling in the aggregate biodiesel gallonage reported by retailers that year (7.4 million to 14.0 million). The biofuel distribution percentage jumped again in 2012 when the aggregate biodiesel gallonage increased to 23.3 million gallons from 14.0 million in 2011. (The Appendix includes updated 2012 summary sales data. A review of 2012 data identified that some E15 gallons were missed in the report released last year, and a handful of late-filing stations were added.) The aggregate biodiesel gallonage rose to 29.0 million gallons in 2013.

In the 2012 Retailers Motor Fuel Gallons Annual Report, the non-ethanol gasoline reported by retailers comprised only 59.1 percent of the total gallons of taxable gasoline on the Monthly Motor Fuel Tax Reports for the same time period and 105.8 percent of the ethanol gallons reported. The higher ethanol composition reported by retailers reflects blending that occurs between the terminals and the final consumer (known as blending below the rack). Shares calculated for 2010 and 2011 are similar. In calendar year 2013 the gallons of gasoline reported by retailers on the annual reports represented 57.1 percent of the taxable gasoline gallons reported on the monthly reports and the gallons of ethanol reported by retailers represented 101.8 percent of the gasohol/ethanol taxable gallons reported on the monthly reports, showing a slight decline in the ratios of total retail gallons reported to taxable gallons for the most recent year.

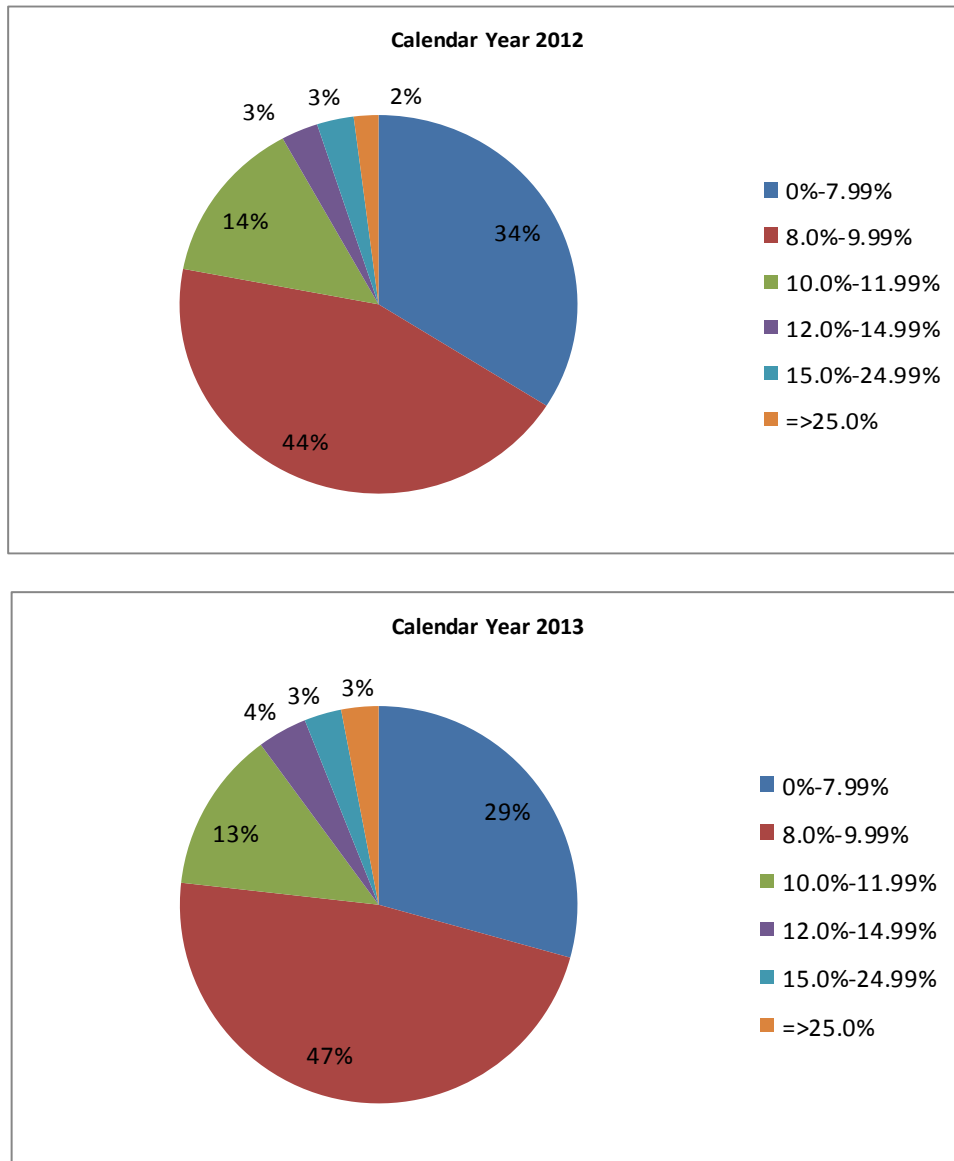
Figure 1: Biofuel Distribution Percentages Based on Annual Retailer Motor Fuel Reports, 2007-2013



Although the 25 percent goal was for the state as a whole, it is instructive to consider that same measure at the retailer and county level. Figure 2 illustrates the breakdown of retail locations by biofuel distribution percentage calculated using the sales reported by each retail location for which Retailers Motor Fuel Gallons Annual Reports were filed in 2012 and 2013. The data includes only the retail locations that reported gasoline or ethanol sales in the respective calendar year, excluding those with only diesel sales reported. However, as noted above, the calculation of the biofuel distribution percentage includes any pure biodiesel sales reported at those locations.

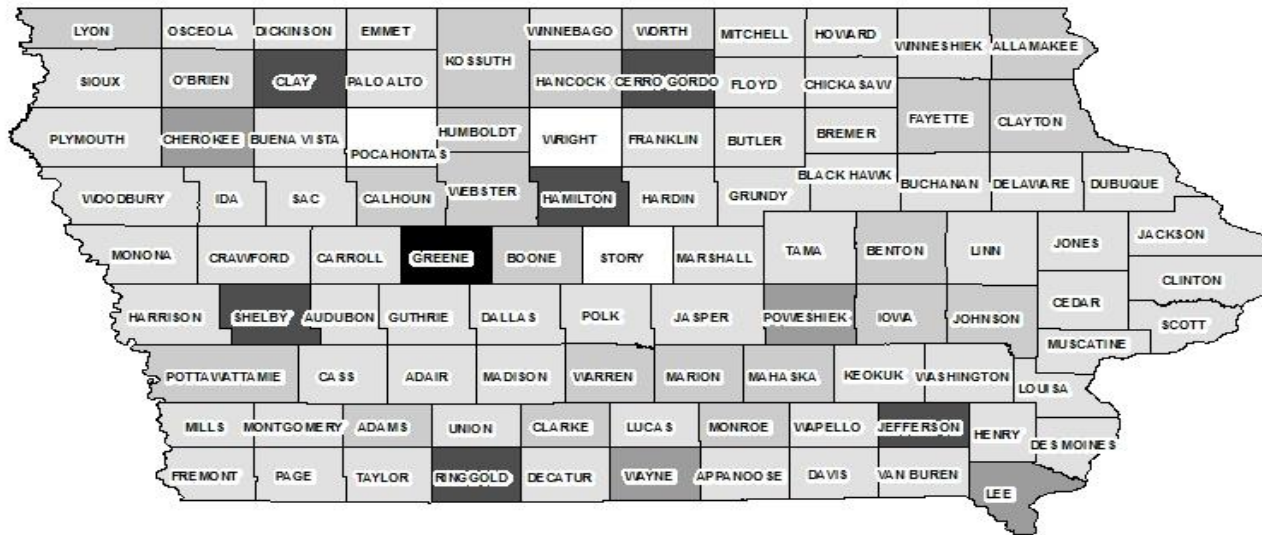
In calendar year 2012 34 percent of retail locations had a biofuel distribution percentage under 8 percent; in calendar year 2013 29 percent of retail locations had a biofuel distribution percentage under 8 percent. In calendar year 2012 44 percent of retail locations had a biofuel distribution percentage between 8 percent and 9.99 percent; the share of retailers with a biofuel distribution percentage increased to 47 percent in 2013. Fourteen percent of motor fuel retail locations had a biofuel distribution percentage of 10 to 11.99 percent in 2012 compared to 13 percent in 2013, while the share of retailers reporting between 12 and 14.99 percent rose from 3 percent in 2012 to 4 percent in 2013. In calendar year 2012 2 percent of locations had a biofuel distribution percentage that met or exceeded the State's 25 percent goal; in calendar year 2013 that share rose slightly to 3 percent.

Figure 2: Breakdown of Retail Locations by Reported Biofuel Distribution Percentage



To further illustrate the biofuel percentage in Iowa, Figure 3 maps the biofuel distribution percentage calculated by county. These percentages are based on total sales reported by the retailers within each county who remitted the 2013 annual gallons report. One county exceeded the 25 percent, and six counties had pure biofuel sales comprising between 15 and 24.99 percent of total motor fuel sales (Cerro Gordo, Clay, Hamilton, Jefferson, Ringgold, Shelby, and Washington). Sixty-three counties had biofuel distribution percentages between 8 percent and 9.99 percent. Table 2 provides the total gallons of non-ethanol gasoline, ethanol, clear and dyed non-biodiesel diesel, and clear and dyed biodiesel gallons for all counties with five or more retailers reporting sales to the Department.

Figure 3. Biofuel Distribution Percentage by County for 2013



Biofuel Distribution Percentage by County



Table 2. Calendar Year 2013 Total Gallons by County

County	Number of Retail Locations	Non-Ethanol Gas Sales	Ethanol Gas Sales	Clear and Dyed Diesel Sales	Biodiesel Sales
ADAIR	12	1,591,221	6,893,421	4,153,996	429,577
ALLAMAKEE	19	1,532,728	6,239,247	1,829,744	639,669
APPANOOSE	15	748,360	4,617,147	1,386,849	401,997
AUDUBON	8	295,098	2,211,311	1,086,490	1,169,712
BENTON	22	2,612,191	8,888,471	3,620,650	1,401,110
BLACK HAWK	68	9,951,778	46,035,760	7,339,163	17,481,975
BOONE	14	1,270,992	8,692,158	2,588,025	383,616
BREMER	14	2,200,692	9,229,073	2,768,021	44,154
BUCHANAN	18	1,553,953	6,846,580	1,762,984	1,290,416
BUENA VISTA	22	1,090,070	8,321,688	5,262,762	0
BUTLER	12	996,515	5,132,022	959,080	1,224,802
CALHOUN	11	689,001	4,737,016	2,684,438	0
CARROLL	24	1,962,491	7,573,010	8,642,857	85,448
CASS	18	1,130,883	7,693,066	4,032,158	116,206
CEDAR	19	1,611,468	7,925,744	4,486,620	13,071,750
CERRO GORDO	31	5,444,824	24,829,867	3,246,410	16,654,758
CHEROKEE	14	923,533	4,244,669	2,526,267	300,965
CHICKASAW	12	1,444,738	5,717,920	4,392,432	1,906,479
CLARKE	7	1,372,638	5,476,120	1,466,380	8,878,211
CLAY	25	1,090,044	6,876,522	2,509,267	457,427
CLAYTON	22	1,947,281	7,165,441	1,580,535	284,528
CLINTON	28	3,098,435	19,905,060	9,028,227	121,735
CRAWFORD	15	1,397,619	5,732,766	4,783,589	36,650
DALLAS	36	6,218,779	31,641,888	5,120,648	3,685,230
DAVIS	5	388,554	2,030,162	446,424	0
DECATUR	5	824,474	2,255,201	264,056	156,326
DELAWARE	13	1,069,016	5,606,423	2,229,581	0
DES MOINES	27	3,123,038	13,486,045	1,801,868	38,701
DICKINSON	28	2,479,063	7,471,699	2,695,875	223,406
DUBUQUE	55	10,670,984	30,532,182	8,890,282	2,087,830
EMMET	10	619,157	3,583,411	1,181,012	1,141,382
FAYETTE	18	1,040,802	6,312,854	17,071,507	80,642
FLOYD	17	1,755,468	5,663,596	4,346,364	242,344
FRANKLIN	15	850,901	5,005,663	4,262,010	777,870
FREMONT	8	707,702	4,072,297	1,176,000	9,675,061
GREENE	10	456,257	3,685,357	1,211,214	89,798
GRUNDY	15	1,135,417	5,621,804	5,533,353	2,022,588
GUTHRIE	11	723,973	4,750,699	1,188,591	8,340,494
HAMILTON	18	1,376,490	6,679,232	3,343,880	3,192,385
HANCOCK	12	733,096	3,515,035	3,853,556	69,442
HARDIN	20	1,184,149	7,255,440	5,151,734	334,245
HARRISON	18	1,351,097	5,853,375	3,520,710	103,749
HENRY	16	1,721,823	9,037,938	739,264	217,466
HOWARD	13	837,042	4,665,182	3,709,886	798,601
HUMBOLDT	15	783,752	4,115,397	3,577,708	24,328
IDA	12	604,480	2,817,645	2,042,675	914,880
IOWA	16	1,884,893	6,333,893	4,174,091	625,737
JACKSON	20	1,279,470	6,760,832	3,256,456	50,417
JASPER	29	2,943,408	16,114,198	3,351,715	15,376,591
JEFFERSON	15	1,211,705	4,220,567	1,663,459	1,161,752

Table 2. Calendar Year 2013 Total Gallons by County (continued)

County	Number of Retail Locations	Non-Ethanol Gas Sales	Ethanol Gas Sales	Clear and Dyed Diesel Sales	Biodiesel Sales
JOHNSON	57	9,052,021	38,848,448	4,947,062	5,568,950
JONES	11	1,170,119	6,368,638	2,264,405	1,122
KEOKUK	12	748,499	4,293,549	1,413,410	1,385,519
KOSSUTH	19	1,473,893	7,766,008	11,980,132	6,167,125
LEE	26	3,088,426	14,714,657	4,940,697	509,512
LINN	89	16,095,788	78,522,584	10,154,292	5,074,184
LOUISA	8	562,226	3,757,957	663,898	241,268
LUCAS	10	698,273	3,072,648	223,647	2,102,922
LYON	13	1,255,451	4,670,415	2,987,109	46,407
MADISON	11	1,350,772	7,058,276	6,628,224	1,343,939
MAHASKA	16	1,103,673	9,214,026	3,016,397	2,964,623
MARION	23	1,609,269	12,729,095	3,026,030	251,475
MARSHALL	26	2,691,363	11,748,586	1,565,311	1,094,911
MILLS	10	1,099,372	4,215,277	2,052,354	675,495
MITCHELL	12	915,362	3,473,534	352,132	167,809
MONONA	10	1,275,044	4,157,208	3,283,129	1,281,363
MONROE	6	427,688	3,015,190	121,000	0
MONTGOMERY	12	878,628	3,796,289	1,512,959	0
MUSCATINE	20	2,108,242	13,635,990	2,718,418	357,949
O'BRIEN	23	1,520,830	5,928,896	3,023,218	185,973
OSCEOLA	7	434,403	2,041,939	2,489,462	44,721
PAGE	9	823,587	5,363,183	681,903	478,158
PALO ALTO	13	799,763	3,612,569	2,592,547	174,107
PLYMOUTH	21	2,892,389	8,201,595	4,943,780	63,713
POCAHONTAS	9	461,218	2,749,985	5,693,164	71,887
POLK	188	42,447,471	166,859,941	17,734,427	65,078,180
POTTAWATTAMIE	66	13,436,163	51,966,980	9,199,439	29,032,160
POWESHIEK	19	3,481,194	10,488,431	8,594,429	14,734,577
RINGGOLD	5	191,769	1,132,064	1,610,049	66,990
SAC	16	918,130	4,595,729	2,353,069	0
SCOTT	86	8,551,677	89,366,399	6,344,185	54,340,336
SHELBY	12	950,512	3,581,209	3,370,857	1,049,711
SIOUX	32	3,981,209	9,648,588	9,520,967	830,465
STORY	45	7,148,134	31,708,015	3,108,582	2,695,208
TAMA	17	1,252,524	5,563,047	3,918,235	34,698
UNION	12	815,784	4,810,256	1,125,040	252,071
VAN BUREN	10	462,619	2,326,540	782,235	110,677
WAPELLO	29	3,020,441	14,290,037	1,431,993	3,541,713
WARREN	25	2,811,529	19,740,011	1,106,573	1,220,821
WASHINGTON	24	2,280,378	10,359,864	4,425,026	8,591,169
WAYNE	7	332,919	1,924,253	79,602	720,010
WEBSTER	28	2,331,310	16,085,328	3,555,439	123,917
WINNEBAGO	17	868,633	4,512,454	2,350,080	47,870
WINNESHIEK	18	1,888,095	7,962,446	5,481,466	9,808
WOODBURY	62	10,877,551	37,679,386	7,677,269	16,770,573
WORTH	8	1,465,477	3,633,011	537,016	318,276
WRIGHT	21	1,149,709	4,831,891	2,893,757	169,966
OTHER	8	469,897	2,768,832	755,776	0
Total	2,155	259,600,967	1,198,863,348	359,171,054	347,804,778

Other: Includes counties with less than 5 retail locations reporting. (Adams and Taylor)

Source: 2013 Retailers Motor Fuel Gallons Annual Reports

Appendix

Revised Table. Iowa Gasoline, Diesel, and Biofuel Sales for Calendar Year 2012

Data Description	Locations	Gallons	Pure Petroleum/Diesel	Pure Biofuel
Gasoline (Non-Ethanol)	1,856	271,896,036	271,896,036	0
Ethanol				
E10	2,048	1,205,186,225	1,084,667,603	120,518,623
E15/E20	81	2,098,443	1,783,677	314,766
E85	190	9,017,410	1,893,656	7,123,754
Total Ethanol	2,019	1,216,302,078	1,088,344,935	127,957,143
Total Gasoline and Ethanol	2,153	1,488,198,114	1,360,240,971	127,957,143
Ethanol Share	93.8%	81.7%		8.6%
Clear Diesel (Non-Biodiesel)	1,211	267,275,856	266,269,354	0
Clear Biodiesel				
B2 Clear	105	32,165,270	31,521,965	643,305
B5 Clear	195	122,491,743	116,367,156	6,124,587
B10 Clear	25	32,806,093	29,525,484	3,280,609
B20 Clear	27	51,775,970	41,420,776	10,355,194
Other Clear	57	17,103,661	15,644,962	1,458,699
Subtotal Clear Biodiesel	281	256,342,737	234,480,342	21,862,395
Clear Biodiesel Share	18.8%	49.0%		8.5%
Dyed Diesel (Non-Biodiesel)	304	120,185,926	118,795,612	0
Dyed Biodiesel				
B2 Dyed	56	5,240,316	5,135,510	104,806
B5 Dyed	57	19,158,429	18,200,508	957,921
B10 Dyed	14	401,736	361,562	40,174
B20 Dyed	17	488,872	391,098	97,774
Other Dyed	20	4,201,326	4,001,857	199,469
Subtotal Dyed Biodiesel	93	29,490,679	28,090,535	1,400,144
Dyed Biodiesel Share	23.4%	19.7%		4.7%
Total Biodiesel	301	285,833,416	262,570,876	23,262,540
Total Diesel and Biodiesel	1,515	673,295,198	647,635,842	23,262,540
Biodiesel Share	19.9%	42.5%		3.5%
Total Fuel All Types	2,217	2,161,493,312	2,007,876,814	151,219,682
Pure Biofuels Share of Gasoline and Diesel				7.0%
Biofuel Distribution Percentage				10.2%

Source: 2012 Retailers Motor Fuel Gallons Annual Reports