



2021 Retailers Fuel Gallons Annual Report

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Prepared By:
Twee Duong
Internal Services Division

Introduction

Iowa Code section 452A.33 requires all Iowa fuel retailers to report motor fuel and diesel gallons to the Iowa Department of Revenue and for the Department to prepare and submit an annual report of fuel gallons to the Iowa Governor and Legislature. Since 2007, when this law became effective, the Department has published the Retailers Fuel Gallons Annual Report for each calendar year. The annual report is based on retailers' reports of gallons that are due to the Department by January 31st in the following year. The present report concerns fuel gallons sold in Iowa in 2021.

In response to changes in law and in the patterns of biofuel sales, the data collected in the Retailers Fuel Gallons Annual Report has been updated from time to time over the years. The current report tracks B11 or higher biodiesel blends, which were subject to a lower fuel excise tax rate beginning July 1, 2015. The tracking of ethanol blend fuel was also updated to better account for the growing E15 market. Ethanol blended gasoline comprised of 15 percent ethanol is now reported as one of two types: Registered E15 or Flex Fuel E15. Registered E15 is sold by retailers that have registered with the U.S. Environmental Protection Agency to sell E15 to consumers with cars built in 2001 or later to allow year-round sale of E15 gasoline. Flex Fuel E15 (15% to 19% ethanol) also includes gallons sold by retailers through a blender pump at any time during the year.

The 2021 report indicates that the overall biofuel distribution percentage decreased twelve hundredths of a percentage point from 2020. While retailers reported higher sales of Registered E15, their reported sales of all other ethanol blends declined. The report also found lower sales of clear B1-B4 and B11-B19 fuel types as compared to other clear biodiesel blends.

Reporting Requirements

Fuel retailers were directed to complete the Department's webform to report 2021 annual fuel sales. Retailers indicating a lack of technology could report annual sales by completing and returning the paper form. Retailers with a large number of locations could securely email an electronic file with annual fuel sales by location. The Retailers Fuel Gallons Annual Report requires retailers to provide information on retail gasoline gallons sold for the following fuel types:

- Gasoline (non-ethanol blend)
- Ethanol E10 blend (10% to 14% ethanol)
- Ethanol Registered E15 blend (15% ethanol)
- Ethanol Flex Fuel E15 blend (15% to 19% ethanol)
- Ethanol E20 blend (20% to 69% ethanol)
- Ethanol E85 blend (70% to 85% ethanol)

Gallons of clear and dyed diesel sales are also required. The distinction between clear diesel and dyed diesel reflects whether the fuel is subject to State and federal fuel excise taxes. Dyed diesel fuel is not subject to fuel excise 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 sales, information is collected for the following fuel types:

Clear Biodiesel (1% to 4% biodiesel) B1-B4

Clear Biodiesel (5% to 10% biodiesel) B5-B10

Clear Biodiesel (11% to 19% biodiesel) B11-B19

Clear Biodiesel (20% to 49% biodiesel) B20-B49

Clear Biodiesel (50% to 100% biodiesel) B50-B100

Dyed Biodiesel (1% to 4% biodiesel) D1-D4

Dyed Biodiesel (5% to 10% biodiesel) D5-D10

Dyed Biodiesel (11% to 19% biodiesel) D11-D19

Dyed Biodiesel (20% to 49% biodiesel) D20-D49

Dyed Biodiesel (50% to 100% biodiesel) D50-D100

Statistical Summary for 2021

The Department identified 3,050 potential retail locations at which fuel may have been sold at retail during 2021. Emails with a link to the webform were sent to 459 retailers who provided email addresses on their calendar year 2020 annual reports. Letters with directions for completing the online report were mailed to another 1,350 retailers, identified using Department of Agriculture and Land Stewardship motor fuel license information and the Department of Revenue eligible purchaser's database. Electronic files were emailed to 20 large fuel retailers with 1,240 locations, providing an option other than station-by-station webform reporting. Paper reports were mailed to six locations where operators indicated a lack of online access.

The Department received webform reports, paper forms, or electronic files representing 1,744 retail locations, a response rate of 57.2 percent compared to 77.1 percent in 2020. The 1,744 locations reported 2.2 billion gallons of retail fuel sales (see Table 1.)

Of the 1,744 Iowa reporting retail locations, 1,571 (90.08%) reported selling at least one type of ethanol blend and 700 (40.14%) reported selling one or more blend of clear or dyed biodiesel. Of the locations selling ethanol, 1,562 (89.56%) reported selling E10 fuel, 304 (17.43%) reported selling Registered E15, Flex Fuel E15 and/or E20 and 286 (16.40%) reported selling E85. Biofuel sales are summarized below and in Table 1.

Gasoline Fuel Sales

During 2021, the reported amount of E10 gasoline sold equaled 1,126.5 million gallons. E85 gasoline sold equaled 19.3 million gallons, E20 gasoline sold equaled 933,853 gallons, and E15 gasoline sold equaled 86.9 million gallons, with 98.5 percent sold through registered pumps. Combined, ethanol blended fuel represented 87.1 percent of total reported gasoline fuel sales during the year. Blends of E15 or higher comprised 6.1 percent of total gasoline sales in 2021. Of the 1,645 locations that sold gasoline, 1,571 (95.5%) sold one or more ethanol blend.

With just around 42.8 percent of locations failing to complete their Retailers Fuel Gallons Annual Report for 2021, gallons from the Department's Monthly Fuel Tax Reports were used to estimate the amount of gasoline sales that were underreported. The gallons presented in the Monthly Fuel Tax Reports reflect taxable fuel shipped from terminals rather than gallons sold at retail locations. Because the Monthly Fuel Tax Reports reflect fuel shipments made during the prior month, taxable gallons reported in the monthly reports covering February 2021 through January 2022 were compared with gallons reported as sold by retailers completing the 2021 annual report. During this period, fuel taxes were paid on a total of 1,580.7 million gallons of gasoline fuels. Comparatively, the 57.2 percent of retail locations that filed annual reports indicated 1,416.8 million gallons of gasoline fuels were sold, including all ethanol blends and non-ethanol gasoline. This reported amount equates to 87.1 percent of taxable gallons in 2021.

Diesel Fuel Sales

Based on annual reports submitted to the Department, 1,214 retail locations sold clear diesel fuel, with 681 (56%) of these locations selling clear biodiesel fuel during 2021. Additionally, 371 retail locations sold dyed diesel fuel, with 126 (34%) of these locations selling dyed biodiesel fuel during 2021.

During 2021, the reported amount of clear B1-B10 diesel sold equaled 73.6 million gallons, B11-B19 diesel sold equaled 257.8 million gallons, and B20 or higher blend diesel sold equaled 89.6 million gallons. Combined, biodiesel blended fuel represented 89.6 percent of total reported clear diesel sales during the year. Blends of B11 or higher comprised 57.7 percent of total clear diesel sales in 2021.

The amount of clear biodiesel sold in 2021 equaled 421 million gallons, or 70 percent of total clear diesel fuel sales. Retailers reported selling 601.6 million gallons of clear diesel fuel. In comparison, the number of taxable (clear) gallons of diesel fuel shipped during 2021, as reported on the Monthly Fuel Tax Reports, equaled 802.14 million. Therefore, retailers completing annual reports for 2021 accounted for 57.2 percent of diesel fuel on which fuel taxes were paid.

Annual reports for 2021 indicated 166 million gallons of dyed (non-taxed) diesel fuel were sold, including 33.5 million biodiesel gallons (20.2%). Dyed diesel gallons are not captured in the Monthly Fuel Tax Reports.

Total diesel gallons reported were 767.9 million, and total biodiesel gallons were 454.6 million; therefore, biodiesel blended gallons accounted for 59.2 percent of clear and dyed diesel gallons sold by reporting retailers.

Table 1. Iowa Gasoline, Diesel, and Biofuel Sales for Calendar Year 2021

Fuel Type	Locations	Gallons Sold	Pure Petroleum/Diesel	Pure Biofuel
Gasoline (Non-Ethanol)	1,334	183,150,085	183,150,085	0
Ethanol				
E10	1,562	1,126,536,031	1,013,882,418	112,653,614
E15 Registered	184	85,634,206	72,789,071	12,845,135
E15 Flex Fuel	37	1,303,047	1,107,589	195,458
E20	83	933,853	747,085	186,768
E85	286	19,259,849	4,044,567	15,215,282
Total Ethanol	1,571	1,233,666,986	1,092,570,730	141,096,257
Total Gasoline and Ethanol	1,645	1,416,817,071	1,275,720,815	141,096,257
Ethanol Share		87.07%		
Clear Diesel (Non-Biodiesel)	801	180,536,276	180,536,276	0
Clear Biodiesel				
Clear B1-B4	54	5,070,560	4,868,243	202,317
Clear B5-B10	341	68,563,929	63,353,073	5,210,857
Clear B11-B19	534	257,779,282	221,174,619	36,604,663
Clear B20-B49	157	89,174,230	71,339,380	17,834,850
Clear B50-B100	23	451,945	225,971	225,971
Subtotal Clear Biodiesel	681	421,039,946	360,961,286	60,078,658
Total Clear Diesel	1,214	601,576,222	541,497,562	60,078,658
Clear Biodiesel Share		69.99%		
Dyed Diesel (Non-Biodiesel)	325	132,806,648	132,806,648	0
Dyed Biodiesel				
Dyed D1-D4	15	381,464	366,245	15,219
Dyed D5-D10	93	24,880,071	23,636,061	1,244,010
Dyed D11-D19	42	7,336,881	6,295,042	1,041,839
Dyed D20-D49	30	907,081	725,664	181,417
Dyed D50-D100	12	16,191	8,095	8,095
Subtotal Dyed Biodiesel	126	33,521,688	31,031,107	2,490,580
Total Dyed Diesel	371	166,328,336	163,837,755	2,490,580
Dyed Biodiesel Share		20.15%		
Total Biodiesel	700	454,561,634	391,992,393	62,569,238
Total Diesel and Biodiesel	1,283	767,904,558	705,335,317	62,569,238
Biodiesel Share		59.20%		
Total Fuel	1,744	2,184,721,629	1,981,056,132	203,665,495
Pure Biofuel Share of Total Gasoline and Diesel Sales				9.3%
Biofuel Distribution Percentage				14.37%

Source: 2021 Retailers Fuel Gallons Annual Reports

Biofuel Distribution Percentage

The following assumptions concerning blends were used to estimate the total amount of biofuel sold in Iowa 2021:

- E10 blend gasoline fuel gallons were multiplied by 0.10
- E15 Registered blend gasoline fuel gallons were multiplied by 0.15
- E15 Flex blend gasoline fuel gallons were multiplied by 0.15
- E20 blend gasoline fuel gallons were multiplied by 0.20
- E85 blend gasoline fuel gallons were multiplied by 0.79
- B1-B4 blend diesel fuel gallons were multiplied by 0.0399
- B5-B10 blend diesel fuel gallons were multiplied by 0.076
- B11-B19 blend diesel fuel gallons were multiplied by 0.142
- B20-B49 blend diesel fuel gallons were multiplied by 0.20
- B50-B100 blend gallons were multiplied by 0.50
- D1-D4 blend diesel fuel gallons were multiplied by 0.0399
- D5-D10 blend diesel fuel gallons were multiplied by 0.05
- D11-D19 blend diesel fuel gallons were multiplied by 0.142
- D20-D49 blend diesel fuel gallons were multiplied by 0.20
- D50-D100 blend gallons were multiplied by 0.50

These calculations indicate that in 2021, pure ethanol comprised 10 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 in 2021, was 141.1 million gallons. Pure biodiesel comprised 8.1 percent of total diesel and biodiesel sales. The aggregate biodiesel gallonage, which is the number of pure biodiesel gallons sold by retailers in 2021, was 62.6 million gallons. Pure biodiesel sold in clear diesel comprised 9.99 percent of gallons sold while pure biodiesel sold in dyed diesel comprised only 1.5 percent of gallons sold. Together, pure ethanol and pure biodiesel comprised 9.3 percent of all fuel sales reported by retailers in Iowa.

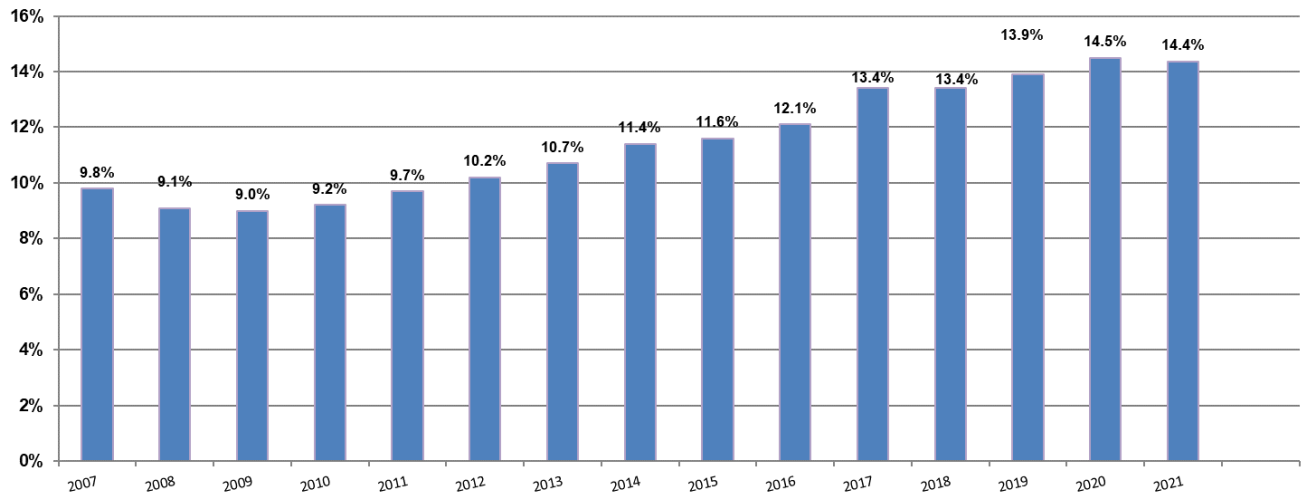
However, note that the formula specified in Iowa Code section 452.31(8) to determine a biofuel distribution percentage does not include diesel fuel in its denominator. The formula is as follows:

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

Using this formula, biofuels accounted for 14.37 percent of Iowa retail motor fuel sales in 2021. This level is a decrease in twelve hundredths of a percentage point from the percentage calculated for 2020 (see Appendix).

Figure1 presents the biofuel distribution percentage calculated for calendar years 2007 through 2021. Between 2010 and 2013, the State percentage increased 0.5 percentage points each year, solely as a result of higher biodiesel usage. The 0.7 percentage point jump in 2014 reflected a change in the octane level of gasoline piped into Iowa, which occurred in late 2013; this resulted in higher ethanol sales throughout the following calendar year. The 0.5 percentage point gain in 2016 reflected both higher ethanol and biodiesel sales. In 2017, retailers reported the largest increase in state-wide biofuel usage, mostly reflecting higher sales of E15, E85, and B20. Higher gallons of pure ethanol accounted for 30 percent of the growth with gains in pure biodiesel gallons accounting for the other 70 percent.

Figure1. Statewide Biofuel Distribution Percentage, 2007-2021 Calendar Years



Source: Retailers Fuel Gallons Annual Reports, 2007-2021

Although the biofuel distribution percentage decreased by 0.12 percentage points between 2020 and 2021, Table 2 indicates E10 gallons increased by 62 million gallons. The changes were not uniform across ethanol and biodiesel blends. The ethanol blend that recorded growth was registered E15, with reported sales 25.9 million gallons (43.4%) higher than 2020. Similarly, E20 declined 16.6 percent. The gains in pure clear biodiesel were experienced in B1-B4, B5-B10, and B20-B49. Significant loss were observed in all dyed biodiesel blends.

Table 2: Comparison of Fuel and PureBiofuel Gallons sold in 2021 Vs 2020

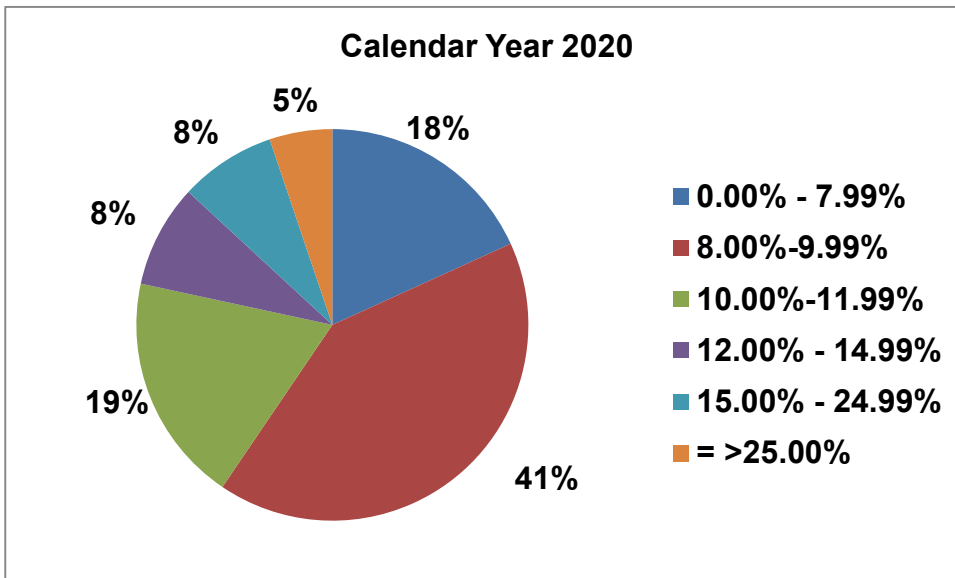
Fuel Type	Change in Biofuel Gallons Sold	Percent Change in Biofuel Gallons	Change in Pure Biofuel Gallons Sold	Percent Change in Pure Biofuel Gallons
Ethanol				
E10	62,038,237	5.8%	6,203,835	5.8%
E15 Registered	25,913,917	43.4%	3,887,092	43.4%
E15 Flex	435,194	50.1%	65,280	50.1%
E20	-185,371	-16.6%	-37,077	-16.6%
E85	4,410,269	29.7%	3,484,113	29.7%
Total Ethanol	92,612,245	8.1%	13,603,243	10.7%
Clear Biodiesel				
Clear B1-B4	1,727,215	51.6%	68,918	51.7%
Clear B5-B10	2,547,375	3.8%	193,599	3.9%
Clear B11-B19	-47,941,709	-15.6%	-6,807,718	-15.7%
Clear B20-B49	18,252,768	25.7%	3,650,558	25.7%
Clear B50-B100	-589,589	-56.6%	-294,796	-56.6%
Total Clear Biodiesel	-26,003,940	-5.8%	-3,189,440	-5.0%
Dyed Biodiesel				
Dyed D1-D4	-19,150	-4.7%	-765	-4.8%
Dyed D5-D10	-10,609,910	-29.8%	-530,489	-29.9%
Dyed D11-D19	-582,687	-7.3%	-82,740	-7.4%
Dyed D20-D49	-1,851,434	-67.1%	-370,286	-67.1%
Dyed D50-D100	-31,037	-65.7%	-15,519	-65.7%
Total Dyed Biodiesel	-13,094,218	-28.0%	-999,799	-28.6%
Total Change	53,514,088	3.3%	9,414,004	4.8%

Source: 2021 and 2020 Retailers Fuel Gallons Annual Reports

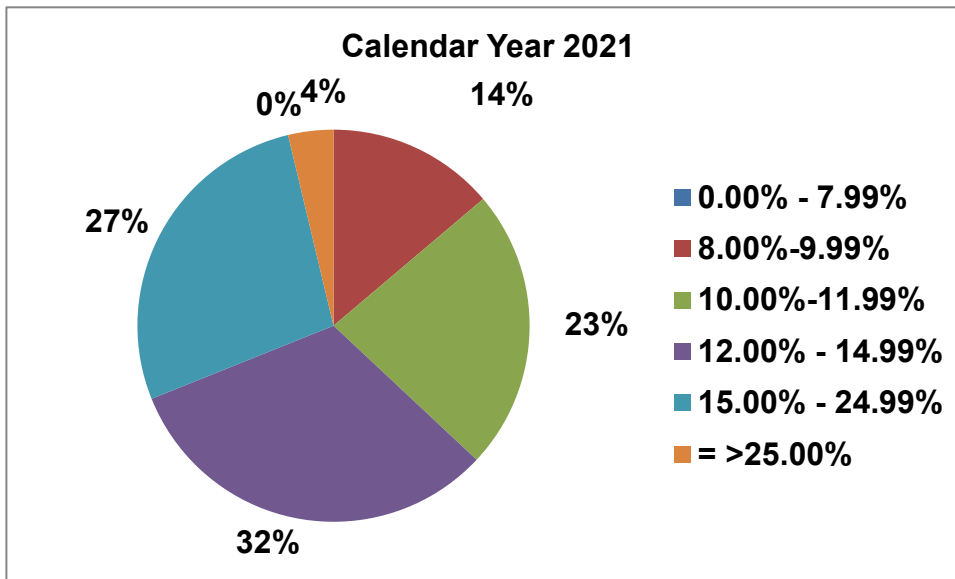
It is instructive to consider that the share of ethanol sold at the retailer and county levels. Figure 2 illustrates the breakdown of retail locations by biofuel distribution percentage, calculated using the sales reported by each retail location for which annual reports were filed in 2020 or 2021. The 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 reported at those locations.

The share of stations reporting a biofuel distribution percentage equal to or greater than 25 percent changed in 2021 decreased to by one percentage point to 4 percent. The percentage of retailers reporting from 0 percent to 7.99 percent decrease from 18.0 percent in 2020 to 0 percent in 2021. The share of retailers in the 8.0 to 9.99 percent range declined from 41.0 percent in 2020 to 14.0 percent in 2021. The share with a biofuel distribution percentage between 10.0 and 11.99 percent increased from 19.0 percent in 2020 to 24.0 percent in 2021. The share of retailers with a biofuel distribution percentage between 12.0 and 14.99 percent increased from 8.0 to 33.0 percent and the share between 15.0 and 24.99 percent increased from 8.0 to 27.0 percent.

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



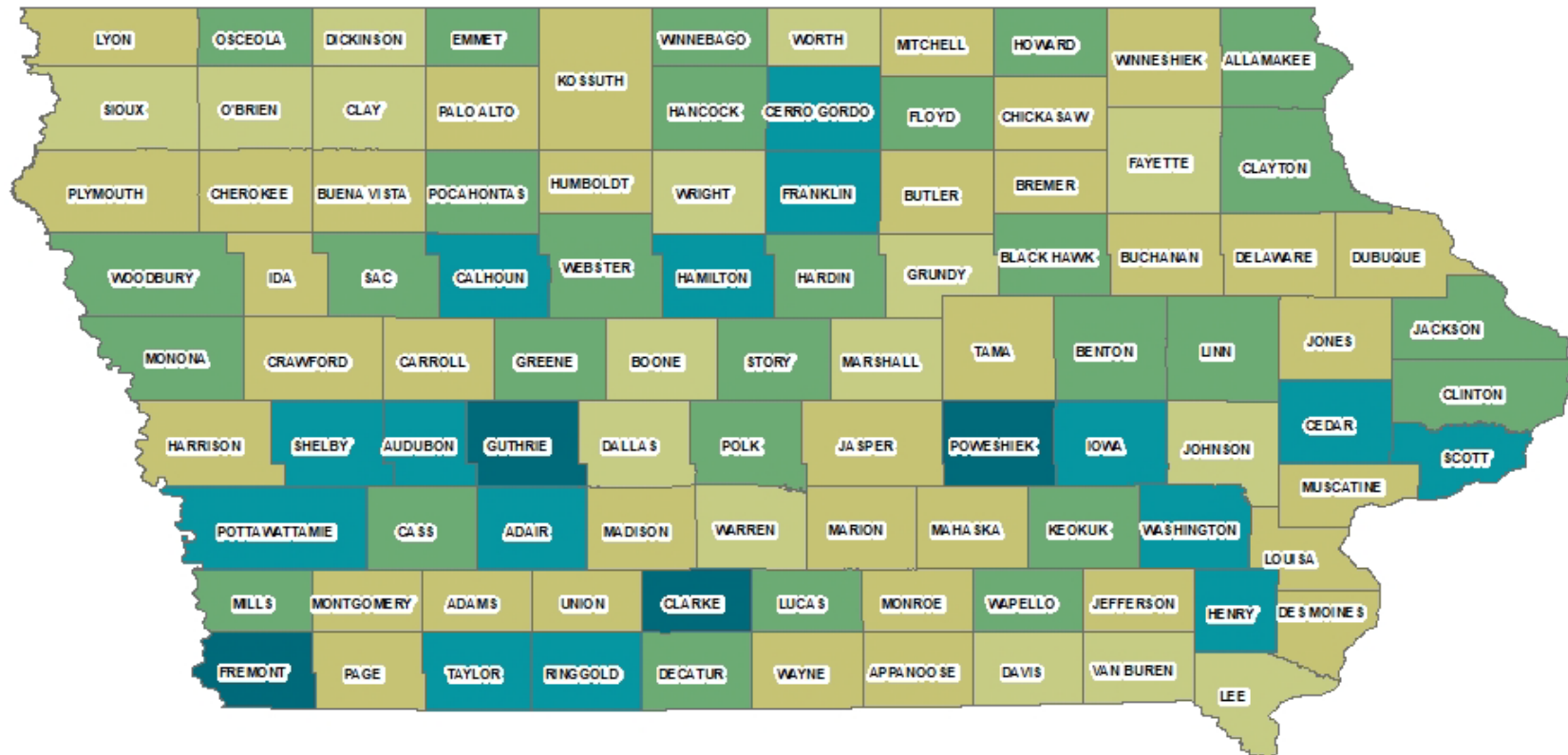
Source: 2020 Retailers Fuel Gallons Annual Reports



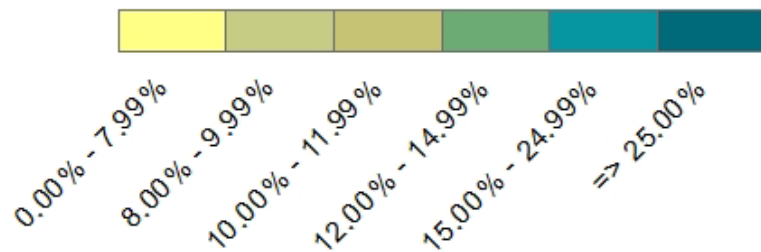
Source: 2021 Retailers Fuel Gallons Annual Reports

To further illustrate the variation in sales of biofuels among Iowa retailers, Figure 3 maps the biofuel distribution percentage calculated by county. These percentages are based on the total sales reported by retailers within each county who remitted the 2021 Retailers Fuel Gallons Annual Report. All counties had a calculated biofuel distribution percentage of 8.8 percent or higher. Four counties (Fremont, Poweshiek, Guthrie, and Clarke) exceeded the 25 percent; fifteen counties had pure biofuel sales comprising between 15.0 and 24.99 percent of total gasoline sales. Twenty-eight counties fell into the 12.0 to 14.99 percent category. Aggregated retail sales in sixteen counties fell in the 8.0 to 9.99 percent category, and thirty-six fell into the 10.0 to 11.99 percent category. Table 3 provides the total gallons of non-ethanol gasoline, ethanol, clear and dyed non-biodiesel, clear and dyed biodiesel, and pure biofuel gallons for all counties with at least five retailers reporting sales to the Department.

Figure 3. Biofuel Distribution Percentage by County for 2021



Biofuel Distribution Percentage



Source: 2021 Retailers Fuel Gallons Annual Reports

Table 3. Calendar Year 2021 Total Gallons by County

County	Number of Retailers Reporting	Gasoline Sales	Ethanol Sales	Clear and Dyed Diesel Sales	Clear and Dyed Biodiesel Sales	Pure Biofuel Sales	Biofuel Distribution Percentage
Adair	11	1,042,806	5,373,991	930,753	6,240,679	1,354,323	21.11%
Adams	*	133,535	1,348,849	241,289	79,046	174,951	11.80%
Allamakee	9	870,411	4,755,045	1,523,722	1,240,414	763,166	13.57%
Appanoose	*	393,175	2,929,518	1,523,633	159,406	389,473	11.72%
Audubon	6	202,273	2,053,504	1,980,763	1,412,213	484,774	21.49%
Benton	18	1,057,333	6,642,405	2,279,597	1,536,825	980,835	12.74%
Black Hawk	55	6,666,668	51,447,315	2,727,434	16,843,653	8,460,977	14.56%
Boone	8	870,532	6,332,039	1,466,715	184,383	659,318	9.15%
Bremer	14	1,934,895	8,842,981	1,205,905	1,926,785	1,275,469	11.83%
Buchanan	10	1,057,226	5,793,093	1,080,089	860,683	766,858	11.19%
Buena Vista	22	978,358	7,316,058	3,204,935	767,280	975,599	11.76%
Butler	12	1,023,150	4,937,786	1,703,095	616,455	614,027	10.30%
Calhoun	14	382,772	4,044,050	545,473	4,287,767	844,805	19.08%
Carroll	20	1,063,845	7,501,687	5,645,889	700,523	978,031	11.42%
Cass	16	913,747	6,814,227	7,044,564	337,769	956,924	12.38%
Cedar	11	893,998	6,451,862	4,794,779	7,522,256	1,826,372	24.86%
Cerro Gordo	21	2,826,134	21,557,732	4,962,398	12,030,906	4,344,585	17.82%
Cherokee	13	592,405	3,860,410	2,429,170	238,642	456,877	10.26%
Chickasaw	8	910,423	4,367,331	159,672	1,232,988	594,510	11.26%
Clarke	8	1,285,092	6,099,606	390,178	7,885,334	1,866,667	25.28%
Clay	14	1,075,400	6,913,686	1,464,278	586,904	797,176	9.98%
Clayton	14	1,081,731	4,781,873	154,237	1,598,510	764,513	13.04%
Clinton	25	1,755,921	18,627,468	4,705,718	3,312,957	2,572,744	12.62%
Crawford	10	662,913	3,900,224	1,655,563	1,399,112	511,670	11.21%
Dallas	29	4,144,941	19,318,929	5,979,455	1,760,109	2,226,876	9.49%
Davis	*	363,648	1,592,702	833,382	333,231	189,020	9.66%
Decatur	*	110,640	1,579,973	177,878	903,289	210,706	12.46%
Delaware	8	1,480,724	5,462,934	3,496,164	1,073,597	777,482	11.20%
Des Moines	17	1,362,269	13,867,497	804,185	44,957	1,550,642	10.18%
Dickinson	14	1,462,703	6,014,628	309,508	585,625	724,119	9.68%
Dubuque	41	7,768,128	47,769,704	994,069	6,959,598	5,954,122	10.72%
Emmet	7	309,747	3,071,480	237,689	452,842	417,261	12.34%
Fayette	10	1,113,879	4,134,781	208,942	382,137	463,087	8.82%
Floyd	9	550,639	4,763,556	2,126,153	1,194,388	729,917	13.74%
Franklin	8	267,158	3,501,438	2,759,733	967,221	594,115	15.76%
Fremont	7	1,278,224	5,045,120	1,446,757	15,694,926	2,890,845	45.72%
Greene	10	282,445	3,717,988	397,341	2,008,034	557,549	13.94%
Grundy	11	606,889	4,793,479	3,735,203	31,319	508,080	9.41%
Guthrie	11	492,215	4,982,585	1,002,219	6,534,362	1,526,395	27.88%
Hamilton	11	492,212	5,600,118	1,014,079	2,272,328	963,145	15.81%
Hancock	8	355,887	2,907,954	391,016	1,188,420	484,717	14.85%
Hardin	19	614,441	6,360,767	4,898,455	1,045,494	856,015	12.27%
Harrison	11	677,301	4,008,622	2,207,645	1,338,043	496,031	10.59%
Henry	14	1,238,317	15,313,264	2,205,924	6,915,829	2,673,175	16.15%
Howard	10	756,535	4,246,194	1,807,466	1,393,225	651,210	13.02%
Humboldt	9	597,993	3,687,789	3,234,589	289,185	441,499	10.30%
Ida	8	366,849	2,483,762	1,644,784	52,625	317,200	11.13%
Iowa	160	31,192,310	179,475,436	73,262,856	106,877,625	39,782,665	18.88%
Jackson	12	997,927	5,970,362	266,250	2,264,028	929,716	13.34%

Table 3. Calendar Year 2021 Total Gallons by County (continued)

Jasper	19	1,727,690	12,368,604	1,366,226	1,020,319	1,532,799	10.87%
Jefferson	13	702,808	3,836,964	1,180,209	986,467	536,998	11.83%
Johnson	40	5,773,557	25,610,893	2,430,453	2,358,745	2,927,887	9.33%
Jones	10	1,002,405	6,851,680	2,202,277	1,072,049	837,397	10.66%
Keokuk	9	467,751	3,667,934	1,534,860	828,272	525,118	12.70%
Kossuth	9	309,359	3,756,495	636,689	243,727	453,349	11.15%
Lee	18	1,561,083	10,002,841	3,018,785	565,187	1,029,971	8.91%
Linn	76	11,635,930	73,668,927	3,575,122	21,277,980	11,205,541	13.14%
Louisa	6	368,582	2,503,381	772,756	286,533	294,763	10.26%
Lucas	6	461,115	2,755,280	626,513	1,868,179	421,180	13.09%
Lyon	6	398,195	2,442,512	1,508,067	635,238	309,230	10.89%
Madison	7	518,387	5,776,235	17,680,982	467,676	701,198	11.14%
Mahaska	11	792,774	8,216,196	1,574,743	1,492,404	984,750	10.93%
Marion	17	1,706,620	11,797,973	4,596,215	789,231	1,463,562	10.84%
Marshall	17	2,201,915	10,167,418	1,836,348	407,827	1,221,075	9.87%
Mills	10	854,644	5,771,950	4,172,856	1,119,710	800,799	12.08%
Mitchell	9	791,352	3,222,103	3,016,775	320,549	442,588	11.03%
Monona	7	606,192	4,292,226	1,534,419	1,239,179	632,150	12.91%
Monroe	*	369,370	2,942,675	0	261,046	341,890	10.32%
Montgomery	7	564,162	3,433,117	2,670,265	679,551	472,149	11.81%
Muscatine	14	1,178,527	8,837,545	543,519	273,907	1,027,502	10.26%
O'Brien	12	612,521	3,503,214	487,229	84,390	393,094	9.55%
Osceola	*	162,247	853,876	54,913	981,019	146,153	14.38%
Page	8	572,947	5,240,464	1,092,382	1,265,013	610,602	10.50%
Palo Alto	6	262,884	2,849,624	886,043	374,023	353,872	11.37%
Plymouth	12	2,344,688	9,689,601	14,623,834	1,347,481	1,269,334	10.55%
Pocahontas	*	171,202	2,089,399	275,620	27,433	290,525	12.85%
Polk	122	23,285,527	146,909,546	17,160,574	36,254,399	20,805,288	12.22%
Pottawattamie	34	4,157,787	30,960,784	7,681,044	26,060,374	7,257,108	20.66%
Poweshiek	18	1,032,075	10,106,796	4,947,874	24,380,974	4,920,769	44.18%
Ringgold	6	268,693	1,909,819	860,200	1,274,593	342,597	15.73%
Sac	13	483,631	4,420,500	1,318,705	1,138,869	612,905	12.50%
Scott	155	6,951,861	87,946,318	4,338,954	47,106,843	16,916,609	17.83%
Shelby	8	314,750	2,470,996	4,436,033	1,864,945	501,974	18.02%
Sioux	17	1,373,904	6,610,542	4,332,591	718,524	781,850	9.79%
Story	24	3,104,300	28,359,418	1,110,156	7,665,908	3,942,117	12.53%
Tama	16	1,050,170	6,656,572	3,003,621	324,889	791,985	10.28%
Taylor	*	235,963	1,596,703	471,259	1,106,171	276,093	15.07%
Union	10	664,830	4,640,145	840,128	852,284	624,449	11.77%
Van Buren	6	221,961	1,915,166	400,697	50,012	196,576	9.20%
Wapello	19	1,792,435	12,351,772	872,250	6,571,858	2,048,838	14.49%
Warren	22	2,162,988	14,190,837	404,409	772,020	1,548,414	9.47%
Washington	13	1,066,245	7,218,707	2,948,870	5,292,012	1,246,752	15.05%
Wayne	*	153,269	1,993,967	54,262	651,222	239,133	11.14%
Webster	28	1,504,689	15,083,802	1,403,541	3,134,486	2,051,881	12.37%
Winnebago	10	427,588	3,772,089	1,851,351	530,502	522,541	12.44%
Winneshiek	12	1,023,026	7,318,605	2,977,405	949,760	932,680	11.18%
Woodbury	21	4,489,070	33,666,978	4,970,028	9,789,092	4,996,766	13.10%
Worth	*	199,822	1,162,731	592,757	105,924	132,162	9.70%
Wright	14	507,830	3,891,264	3,206,524	128,911	420,278	9.55%

Source: 2021 Retailers Fuel Gallons Annual Reports

Note: * includes Adams and Taylor Counties where less than five retailers reported sales.

Appendix
Iowa Gasoline, Diesel, and Biofuel Sales for Calendar Year 2020

Fuel Type	Locations	Gallons Sold	Pure Petroleum/Diesel	Pure Biofuel
Gasoline (Non-Ethanol)	1,551	199,524,420	199,524,420	0
Ethanol				
E10	1,812	1,064,497,794	958,048,015	106,449,779
E15 Registered	223	59,720,289	50,762,246	8,958,043
E15 Flex Fuel	28	867,853	737,675	130,178
E20	84	1,119,224	895,379	223,845
E85	348	14,849,580	3,118,412	11,731,169
Total Ethanol	1,820	1,141,054,741	1,013,561,726	127,493,014
Total Gasoline and Ethanol	1,880	1,340,579,161	1,213,086,146	127,493,014
Ethanol Share		85.1%		
Clear Diesel (Non-Biodiesel)	920	167,101,756	167,101,756	0
Clear Biodiesel				
Clear B1-B4	62	3,343,345	3,209,946	133,399
Clear B5-B10	371	66,016,554	60,999,296	5,017,258
Clear B11-B19	639	305,720,991	262,308,610	43,412,381
Clear B20-B49	233	70,921,462	56,737,170	14,184,292
Clear B50-B100	16	1,041,534	520,767	520,767
Subtotal Clear Biodiesel	773	447,043,886	383,775,788	63,268,098
Total Clear Diesel	1,352	614,145,642	550,877,544	63,268,098
Clear Biodiesel Share		72.8%		
Dyed Diesel (Non-Biodiesel)	281	153,174,989	153,174,989	0
Dyed Biodiesel				
Dyed D1-D4	17	400,614	384,629	15,984
Dyed D5-D10	106	35,489,981	33,715,482	1,774,499
Dyed D11-D19	40	7,919,568	6,794,990	1,124,579
Dyed D20-D49	30	2,758,515	2,206,812	551,703
Dyed D50-D100	9	47,228	23,614	23,614
Subtotal Dyed Biodiesel	137	46,615,906	43,125,527	3,490,379
Total Dyed Diesel	321	199,790,895	196,300,516	3,490,379
Dyed Biodiesel Share		23.3%		
Total Biodiesel	803	493,659,792	426,901,315	66,758,477
Total Diesel and Biodiesel	1,367	813,936,537	747,178,060	66,758,477
Biodiesel Share		60.7%		
Total Fuel	1,989	2,154,515,697	1,960,264,206	194,251,491
Pure Biofuel Share of Total Gasoline and Diesel Sales				9.0%
Biofuel Distribution Percentage				14.5%

Source: 2020 Retailers Fuel Gallons Annual Reports