

Iowa NREC

2017-2024 Crop Year Survey Data Extrapolation

Corn & Soy Acreages	2017	2018	2019	2020	2021	2022	2023	2024	Average
Corn acreage (CDL)	13,212,913	13,012,207	13,648,497	13,793,805	12,826,886	12,686,886	12,805,034	13,133,558	13,139,973
Soy acreage (CDL)	9,782,215	9,956,734	9,275,193	9,553,928	10,150,325	10,046,351	9,850,104	10,128,623	9,842,934
Corn & soy acreage total (CDL)	22,995,128	22,968,941	22,923,690	23,347,733	22,977,211	22,733,237	22,655,138	23,210,857	22,976,492

CDL = USDA Cropland Data Layer

Commercial Only Nitrogen Rates (lb/ac)	2017	2018	2019	2020	2021	2022	2023	2024	Average
Average commercial N rate on corn in rotation	170.0	172.3	177.5	183.4	170.9	173.4	166.6	179.2	174.2
Average commercial N rate on continuous corn	200.4	201.9	200.4	208.9	199.9	192.6	185.7	205.0	199.4

	Percentage								
Cover Crop Practices:	2017	2018	2019	2020	2021	2022	2023	2024	Average
Cover crop planted	6.9%	8.8%	9.5%	13.3%	12.1%	16.6%	17.0%	16.7%	12.6%
Rye cover crop	69.4%	82.8%	81.3%	90.9%	80.8%	81.8%	86.6%	89.6%	82.9%
Oat cover crop	9.1%	9.8%	2.8%	1.3%	5.5%	4.4%	6.1%	4.3%	5.4%
Species mix	NA	NA	11.2%	6.7%	12.3%	8.5%	5.5%	5.5%	8.3%
Other cover crop	21.5%	7.4%	4.8%	1.1%	1.5%	5.3%	1.7%	0.6%	5.5%

Commercial Nitrogen Application Practices:	2017	2018	2019	2020	2021	2022	2023	2024	Average
Fall anhydrous ammonia applied	38.9%	24.1%	23.5%	28.9%	43.1%	50.3%	49.5%	42.0%	37.5%
Nitrapyrin inhibitor with anhydrous ammonia	72.6%	73.9%	84.8%	83.8%	86.0%	64.7%	47.1%		
Fall only	NA	NA	14.0%	17.4%	22.4%	27.8%	34.7%	23.9%	23.4%
Spring pre-plant only	42.1%	56.3%	50.9%	46.7%	40.3%	33.8%	36.5%	41.9%	43.6%
Spring pre-plant & in-season	9.9%	15.4%	16.9%	13.8%	13.2%	14.5%	10.5%	12.3%	13.3%
In-season only	2.1%	1.1%	1.1%	3.8%	1.7%	1.0%	2.5%	1.8%	1.9%
Fall & spring pre-plant	NA	NA	11.6%	9.7%	14.3%	14.4%	10.2%	10.7%	11.8%
Fall & in-season	NA	NA	3.2%	5.4%	4.7%	6.1%	3.7%	8.0%	5.2%
Fall & spring & in-season	NA	NA	2.3%	3.2%	3.4%	2.3%	2.0%	1.4%	2.4%
Variable rate applied	NA	NA	8.7%	10.1%	16.1%	9.8%	15.2%	12.2%	12.0%

Manure Practices:	2017	2018	2019	2020	2021	2022	2023	2024	Average
No manure used	81.5%	81.4%	80.8%	82.0%	79.7%	78.8%	76.5%	77.5%	79.8%
Beef manure used	6.8%	10.3%	8.8%	6.3%	9.5%	9.0%	11.8%	10.2%	9.1%
Beef & poultry manure used	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%			0.0%
Beef & liquid swine manure used	0.0%	0.0%	0.3%	0.1%	0.1%	0.2%	0.4%	0.1%	0.2%
Liquid swine manure used	7.6%	5.4%	7.4%	8.1%	8.1%	8.9%	8.3%	7.9%	7.7%
Liquid swine & dairy manure used	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%			0.0%
Poultry manure used	1.6%	1.7%	1.9%	1.2%	1.6%	1.4%	1.7%	0.9%	1.5%
Dairy manure used	2.5%	1.1%	0.8%	2.1%	1.1%	1.7%	1.5%	3.3%	1.8%
Dairy & beef manure used	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%			0.0%
Liquid swine manure fall applied	94.7%	84.2%	78.5%	87.3%	82.4%	91.8%	83.1%	91.2%	86.6%
Liquid swine manure spring applied	1.8%	2.5%	11.7%	3.4%	7.0%	4.7%	5.6%	0.0%	4.6%
Liquid swine manure fall & spring applied	3.5%	13.3%	9.9%	9.4%	10.6%	3.6%	11.3%	8.8%	8.8%

Phosphorus Application Practices:	2017	2018	2019	2020	2021	2022	2023	2024	Average
	11.0%	3.8%	1.2%	2.7%	0.6%	0.7%	1.6%		3.1%
Commercial P incorporated with planter	2.9%	2.7%	2.7%	3.0%	2.7%	1.1%	4.0%	0.9%	2.5%
Commercial P broadcast & incorporated in 1 week	47.0%	70.3%	69.1%	40.4%	43.2%	37.9%	31.4%	31.6%	46.4%
Liquid P (commercial/manure) injected	1.8%	3.8%	8.9%	7.8%	5.0%	6.8%	5.6%	1.8%	5.2%
Other P application type (unincorporated)	37.4%	19.5%	18.1%	46.0%	48.4%	53.5%	57.4%	59.2%	42.4%
Variable rate applied	NA	NA	49.6%	45.7%	57.0%	52.8%	61.5%	58.3%	54.2%
Soil testing for P	81.2%	72.1%	85.5%	80.6%	81.2%	79.6%	82.2%	77.1%	79.9%
P application only when at or below optimum levels	74.3%	94.4%	94.3%	99.1%	98.2%	95.4%	91.0%	94.9%	92.7%

Tillage Practices:	2017	2018	2019	2020	2021	2022	2023	2024	Average
Conservation tillage before corn	56.3%	52.3%	46.5%	23.0%	25.4%	29.7%	23.3%	22.9%	34.9%
No-till before corn	26.4%	22.2%	29.4%	29.5%	31.6%	29.6%	32.7%	29.1%	28.8%
Conventional tillage before corn	NA	25.4%	24.1%	47.5%	43.0%	40.6%	44.0%	48.0%	38.9%
Conservation tillage before soy	42.6%	34.6%	33.8%	18.5%	19.6%	27.7%	22.1%	16.0%	26.9%
No-till before soy	43.2%	41.0%	44.6%	47.3%	53.3%	46.9%	49.7%	55.3%	47.7%
Conventional tillage before soy	NA	24.4%	21.6%	34.2%	27.1%	25.5%	28.3%	28.7%	27.1%
Combined corn & soy conservation tillage acreage	50.5%	44.6%	41.3%	21.1%	22.9%	28.8%	22.7%	19.9%	31.5%
Combined corn & soy no-till acreage	33.5%	30.4%	35.6%	36.8%	41.2%	37.2%	40.1%	40.5%	36.9%
Combined corn & soy conventional tillage acreage	NA	25.0%	23.1%	42.1%	35.9%	33.9%	37.2%	39.6%	33.8%

Acreage								
2017	2018	2019	2020	2021	2022	2023	2024	Average
1,597,614	2,015,688	2,180,043	3,107,063	2,768,754	3,773,717	3,841,525	3,873,663	2,894,759
1,108,954	1,669,641	1,771,503	2,823,418	2,236,599	3,086,901	3,327,999	3,469,663	2,436,835
144,610	197,070	61,041	41,452	151,174	166,044	234,047	166,820	145,282
NA	NA	243,293	207,104	339,449	320,766	213,057	212,479	256,025
344,051	148,977	104,206	35,089	40,978	200,007	66,422	24,701	120,554

Extrapolation
Extrapolated Using
Corn & soy acres
Cover crop acres
Cover crop acres
Cover crop acres

2017	2018	2019	2020	2021	2022	2023	2024	Average
5,136,775	3,135,808	3,210,126	3,980,920	5,532,236	6,381,504	6,342,262	5,490,474	4,901,263
3,731,524	2,318,399	2,722,508	3,337,435	4,759,936	4,128,833	2,987,981	2,550,083	3,426,660
NA	NA	1,916,249	2,396,375	2,871,940	3,526,954	4,440,985	3,126,364	3,030,501
5,563,671	7,331,631	6,949,814	6,443,443	5,165,387	4,288,167	4,668,057	5,475,018	5,772,882
1,307,086	2,004,263	2,299,772	1,907,536	1,691,866	1,839,598	1,343,120	240,305	1,770,463
281,723	137,166	147,404	529,108	219,340	126,869	318,438	1,608,801	251,435
NA	NA	1,581,861	1,335,708	1,835,527	1,826,912	1,310,425	1,396,726	1,578,087
NA	NA	434,022	738,667	596,450	773,900	470,882	1,045,804	602,784
NA	NA	319,375	442,967	441,245	291,798	253,127	189,216	349,702
NA	NA	1,180,595	1,386,830	2,058,715	1,243,315	1,950,131	1,591,699	1,563,917

Extrapolated Using
Corn acres
Fall anhydrous ammonia acres
Corn acres
Corn acres
Corn acres
Corn acres
Corn acres
Corn acres
Corn acres

2017	2018	2019	2020	2021	2022	2023	2024	Average
10,765,242	10,590,004	11,030,715	11,310,374	10,223,669	9,997,266	9,791,557	10,144,605	10,481,679
900,069	1,343,993	1,194,243	864,553	1,212,141	1,141,820	1,505,522	1,337,986	1,187,541
0	0	0	12,388	0	0			2,065
0	0	38,216	19,715	11,416	25,374	46,339	13,872	19,366
998,307	700,854	1,011,354	1,123,205	1,035,130	1,129,133	1,058,156	1,038,252	1,011,799
0	0	0	8,585	0	0			1,431
207,798	215,760	262,051	159,361	202,665	177,616	213,102	117,314	194,458
324,858	141,833	111,918	295,623	138,530	215,677	190,358	430,206	231,125
16,638	19,763	0	0	0				6,067
945,796	590,008	823,597	1,004,791	862,040	1,059,837	918,133	959,794	895,499
17,504	17,446	122,590	38,639	73,447	54,262	61,629	0	48,189
35,007	93,400	103,488	108,076	111,028	41,562	124,732	92,331	88,703

Extrapolated Using
Corn acres
Corn acres
Corn acres
Corn acres
Corn acres
Corn acres
Corn acres
Corn acres
Corn acres
Swine manure acres
Swine manure acres
Swine manure acres

2017	2018	2019	2020	2021	2022	2023	2024	Average
2,523,799	862,841	270,500	639,271	144,756	159,133	361,439		708,820
656,919	627,900	618,940	692,078	625,440	250,066	915,394	204,018	573,844
10,807,030	16,143,905	15,847,147	9,440,934	9,916,964	8,615,897	7,110,864	7,326,759	10,651,188
416,049	865,364	2,049,378	1,825,232	1,155,754	1,545,860	1,258,882	422,546	1,192,383
8,591,331	4,468,931	4,137,726	10,750,218	11,130,161	12,162,282	13,008,560	13,730,126	9,747,417
NA	NA	11,358,688	10,677,472	13,106,201	12,003,149	13,937,564	13,542,364	12,437,573
18,682,577	16,563,845	19,602,047	18,818,176	18,662,091	18,095,657	18,625,588	17,892,531	18,367,814
13,875,230	15,636,269	18,482,770	18,653,889	18,329,906	17,263,256	16,947,816	16,973,400	17,020,317

Extrapolated Using
Corn & soy acres
Corn & soy acres
Corn & soy acres
Corn & soy acres
Corn & soy acres
Corn & soy acres
Corn & soy acres
Corn & soy acres
Soil test phosphorus acres

2017	2018	2019	2020	2021	2022	2023	2024	Average
7,441,970	6,805,748	6,341,092	3,171,203	3,260,594	3,768,005	2,977,177	2,995,644	4,823,684
3,486,345	2,890,908	4,018,117	4,071,389	4,052,013	3,755,318	4,188,876	3,805,549	3,780,424
NA	3,299,680	3,289,288	6,551,214	5,512,867	5,150,876	5,638,982	6,281,041	4,907,151
4,169,316	3,441,481	3,134,088	1,764,290	1,993,219	2,782,839	2,173,803	1,623,454	2,779,862
4,221,350	4,081,526	4,134,881	4,517,853	5,409,108	4,711,739	4,892,801	5,602,069	4,567,037
NA	2,433,727	2,006,224	3,271,784	2,746,678	2,561,820	2,783,500	2,903,099	2,633,956
11,611,287	10,247,229	9,475,179	4,935,493	5,253,814	6,550,844	6,619,099	7,603,547	
7,707,695	6,972,434	8,152,999	8,589,242	9,461,121	8,467,057	9,081,676	9,407,618	8,347,461
NA	5,733,407	5,295,512	9,822,998	8,259,545	7,712,695	8,422,482	9,184,140	7,541,107

Extrapolated Using
Corn acres
Corn acres
Corn acres
Soy acres
Soy acres
Soy acres
Corn & soy conservation tillage acres
Corn & soy no-till acres
Corn & soy conventional tillage acres



2017-2024 Crop Year Survey Data: Corn & Soy Acreages

This part of the survey starts with statewide corn and soybean acre data from USDA. These numbers form the foundation for the rest of INREC's analysis because they help paint a picture of what's happening across Iowa farmland. Acre trends matter because they drive almost everything else: fertility needs, crop rotations, cover crop opportunities, and conservation impact. When corn or soybean acres shift, it is usually due to a mix of factors such as crop prices, input costs, weather, or global markets. For example, a wet spring might push more acres into soybeans, while strong corn prices could pull them back the following year. Changes in total acres also affect how we interpret conservation practice adoption. Tracking acre trends alongside management practices gives a clearer sense of what is really happening on the ground.

Corn & Soy Acreages	2017	2018	2019	2020	2021	2022	2023	2024	Average
Corn acreage (CDL)	13,212,913	13,012,207	13,648,497	13,793,805	12,826,886	12,686,886	12,805,034	13,133,558	13,139,973
Soy acreage (CDL)	9,782,215	9,956,734	9,275,193	9,553,928	10,150,325	10,046,351	9,850,104	10,128,623	9,842,934
Corn & soy acreage total (CDL)	22,995,128	22,968,941	22,923,690	23,347,733	22,977,211	22,733,237	22,655,138	23,210,857	22,976,492

CDL = USDA Cropland Data Layer



2017-2024 Crop Year Survey Data: Commercial Only Nitrogen Rates

When we look at commercial-only nitrogen rates, we're talking about fertilizer that comes strictly from commercial sources—no manure inputs. Since 2017, those rates have stayed pretty steady. That tells us farmers are applying what the crop needs, not more, not less. It also shows a good balance between keeping yields up and protecting water quality.

Commercial Only Nitrogen Rates (lb/ac)	2017	2018	2019	2020	2021	2022	2023	2024	Average
Average commercial N rate on corn in rotation	170.0	172.3	177.5	183.4	170.9	173.4	166.6	179.2	174.2
Average commercial N rate on continuous corn	200.4	201.9	200.4	208.9	199.9	192.6	185.7	205.0	199.4



2017-2024 Crop Year Survey Data: Cover Crop Practices

Here you will find data on how many acres are planted with cover crops, the percentage of total acres that represents and how adoption has changed over time. Cover crops protect soil from erosion, hold nutrients such as nitrogen and build organic matter. These benefits align with the goals of the Iowa Nutrient Reduction Strategy. Research from Iowa State University shows that rye cover crops can reduce nitrate losses by around 60% compared to no cover crop in a corn-soybean rotation over a period of four years. Adoption usually grows gradually rather than all at once. Costs, weather and timing all play a role. A late fall or wet spring can make planting or terminating cover crops difficult. For some farmers, the uncertainty of short-term results also slows adoption.

Cover Crop Practices Percentage	2017	2018	2019	2020	2021	2022	2023	2024	Average
Cover crop planted	6.9%	8.8%	9.5%	13.3%	12.1%	16.6%	17.0%	16.7%	12.6%
Rye cover crop	69.4%	82.8%	81.3%	90.9%	80.8%	81.8%	86.6%	89.6%	82.9%
Oat cover crop	9.1%	9.8%	2.8%	1.3%	5.5%	4.4%	6.1%	4.3%	5.4%
Species mix	NA	NA	11.2%	6.7%	12.3%	8.5%	5.5%	5.5%	8.3%
Other cover crop	21.5%	7.4%	4.8%	1.1%	1.5%	5.3%	1.7%	0.6%	5.5%

Cover Crop Practices Acreage	2017	2018	2019	2020	2021	2022	2023	2024	Average
Cover crop planted	1,597,614	2,015,688	2,180,043	3,107,063	2,768,754	3,773,717	3,841,525	3,873,663	2,894,759
Rye cover crop	1,108,954	1,669,641	1,771,503	2,823,418	2,236,599	3,086,901	3,327,999	3,469,663	2,436,835
Oat cover crop	144,610	197,070	61,041	41,452	151,174	166,044	234,047	166,820	145,282
Species mix	NA	NA	243,293	207,104	339,449	320,766	213,057	212,479	256,025
Other cover crop	344,051	148,977	104,206	35,089	40,978	200,007	66,422	24,701	120,554

2017-2024 Crop Year Survey Data: Commercial Nitrogen Application Practices

Here, we are looking at how nitrogen from fertilizer or manure equivalents is being applied, how timing and methods are changing and how those adjustments tie into nutrient-loss goals. Managing nitrogen is a key part of the Nutrient Reduction Strategy since excess nitrogen contributes to water quality challenges. The “4Rs” approach (right rate, right source, right time, right place) guides this effort. Survey data shows nitrogen rates holding steady, which suggests farmers are applying responsibly and following best practices. Even small year-to-year changes can point to larger factors, such as fertilizer price swings, yield expectations, soil nitrogen levels or weather challenges like wet or dry springs.

Commercial Nitrogen Application Practices Percentage	2017	2018	2019	2020	2021	2022	2023	2024	Average
Fall anhydrous ammonia applied	38.9%	24.1%	23.5%	28.9%	43.1%	50.3%	49.5%	42.0%	37.5%
Nitrapyrin inhibitor with anhydrous ammonia	72.6%	73.9%	84.8%	83.8%	86.0%	64.7%	47.1%	N/A	73.3%
Fall only	NA	NA	14.0%	17.4%	22.4%	27.8%	34.7%	23.9%	23.4%
Spring pre-plant only	42.1%	56.3%	50.9%	46.7%	40.3%	33.8%	36.5%	41.9%	43.6%
Spring pre-plant & in-season	9.9%	15.4%	16.9%	13.8%	13.2%	14.5%	10.5%	12.3%	13.3%
In-season only	2.1%	1.1%	1.1%	3.8%	1.7%	1.0%	2.5%	1.8%	1.9%
Fall & spring pre-plant	NA	NA	11.6%	9.7%	14.3%	14.4%	10.2%	10.7%	11.8%
Fall & in-season	NA	NA	3.2%	5.4%	4.7%	6.1%	3.7%	8.0%	5.2%
Fall & spring & in-season	NA	NA	2.3%	3.2%	3.4%	2.3%	2.0%	1.4%	2.4%
Variable rate applied	NA	NA	8.7%	10.1%	16.1%	9.8%	15.2%	12.2%	12.0%

Commercial Nitrogen Application Practices Acreage	2017	2018	2019	2020	2021	2022	2023	2024	Average
Fall anhydrous ammonia applied	5,136,775	3,135,808	3,210,126	3,980,920	5,532,236	6,381,504	6,342,262	5,490,474	4,901,263
Nitrapyrin inhibitor with anhydrous ammonia	3,731,524	2,318,399	2,722,508	3,337,435	4,759,936	4,128,833	2,987,981	2,550,083	3,426,660
Fall only	NA	NA	1,916,249	2,396,375	2,871,940	3,526,954	4,440,985	3,126,364	3,030,501
Spring pre-plant only	5,563,671	7,331,631	6,949,814	6,443,443	5,165,387	4,288,167	4,668,057	5,475,018	5,772,882
Spring pre-plant & in-season	1,307,086	2,004,263	2,299,772	1,907,536	1,691,866	1,839,598	1,343,120	240,305	1,770,463
In-season only	281,723	137,166	147,404	529,108	219,340	126,869	318,438	1,608,801	251,435
Fall & spring pre-plant	NA	NA	1,581,861	1,335,708	1,835,527	1,826,912	1,310,425	1,396,726	1,578,087
Fall & in-season	NA	NA	434,022	738,667	596,450	773,900	470,882	1,045,804	602,784
Fall & spring & in-season	NA	NA	319,375	442,967	441,245	291,798	253,127	189,216	349,702
Variable rate applied	NA	NA	1,180,595	1,386,830	2,058,715	1,243,315	1,950,131	1,591,699	1,563,917

These numbers reflect how manure is being used, including how many acres receive it, what types are applied and when applications occur. Manure remains a key nutrient source for Iowa farmers, providing nitrogen, phosphorus and organic matter that feed the soil. Fall application is still the most common, although spring application is slowly increasing as farmers look to better match nutrient release with crop needs.

Manure Practices Percentage	2017	2018	2019	2020	2021	2022	2023	2024	Average
No manure used	81.5%	81.4%	80.8%	82.0%	79.7%	78.8%	76.5%	77.5%	79.8%
Beef manure used	6.8%	10.3%	8.8%	6.3%	9.5%	9.0%	11.8%	10.2%	9.1%
Beef & poultry manure used	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%			0.0%
Beef & liquid swine manure used	0.0%	0.0%	0.3%	0.1%	0.1%	0.2%	0.4%	0.1%	0.2%
Liquid swine manure used	7.6%	5.4%	7.4%	8.1%	8.1%	8.9%	8.3%	7.9%	7.7%
Liquid swine & dairy manure used	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%			0.0%
Poultry manure used	1.6%	1.7%	1.9%	1.2%	1.6%	1.4%	1.7%	0.9%	1.5%
Dairy manure used	2.5%	1.1%	0.8%	2.1%	1.1%	1.7%	1.5%	3.3%	1.8%
Dairy & beef manure used	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%			0.0%
Liquid swine manure fall applied	94.7%	84.2%	78.5%	87.3%	82.4%	91.8%	83.1%	91.2%	86.6%
Liquid swine manure spring applied	1.8%	2.5%	11.7%	3.4%	7.0%	4.7%	5.6%	0.0%	4.6%
Liquid swine manure fall & spring applied	3.5%	13.3%	9.9%	9.4%	10.6%	3.6%	11.3%	8.8%	8.8%

Manure Practices Acreage	2017	2018	2019	2020	2021	2022	2023	2024	Average
No manure used	10,765,242	10,590,004	11,030,715	11,310,374	10,223,669	9,997,266	9,791,557	10,144,605	10,481,679
Beef manure used	900,069	1,343,993	1,194,243	864,553	1,212,141	1,141,820	1,505,522	1,337,986	1,187,541
Beef & poultry manure used	0	0	0	12,388	0	0			2,065
Beef & liquid swine manure used	0	0	38,216	19,715	11,416	25,374	46,339	13,872	19,366
Liquid swine manure used	998,307	700,854	1,011,354	1,123,205	1,035,130	1,129,133	1,058,156	1,038,252	1,011,799
Liquid swine & dairy manure used	0	0	0	8,585	0	0			1,431
Poultry manure used	207,798	215,760	262,051	159,361	202,665	177,616	213,102	117,314	194,458
Dairy manure used	324,858	141,833	111,918	295,623	138,530	215,677	190,358	430,206	231,125
Dairy & beef manure used	16,638	19,763	0	0	0	0			6,067
Liquid swine manure fall applied	945,796	590,008	823,597	1,004,791	862,040	1,059,837	918,133	959,794	895,499
Liquid swine manure spring applied	17,504	17,446	122,590	38,639	73,447	54,262	61,629	0	48,189
Liquid swine manure fall & spring applied	35,007	93,400	103,488	108,076	111,028	41,562	124,732	92,331	88,703

When we look at this category, we see the percentage of acres receiving phosphorus fertilizer, the methods of application and how practices have evolved over time. Targeted applications, such as commercial phosphorus incorporated with the planter, knifed bands or liquid injection, are less common but show modest adoption, with variability by year and field conditions. Soil testing remains central to phosphorus management, with nearly 80% of fields tested for phosphorus, and most applications occurring when soil-test levels are at or below optimum, ensuring efficient use of nutrients and minimizing environmental impact.

Phosphorus Application Practices Percentage	2017	2018	2019	2020	2021	2022	2023	2024	Average
Commercial P incorporated with planter	2.9%	2.7%	2.7%	3.0%	2.7%	1.1%	4.0%	0.9%	2.5%
Commercial P broadcast & incorporated in 1 week	47.0%	70.3%	69.1%	40.4%	43.2%	37.9%	31.4%	31.6%	46.4%
Liquid P (commercial/manure) injected	1.8%	3.8%	8.9%	7.8%	5.0%	6.8%	5.6%	1.8%	5.2%
Other P application type (unincorporated)	37.4%	19.5%	18.1%	46.0%	48.4%	53.5%	57.4%	59.2%	42.4%
Variable rate applied	NA	NA	49.6%	45.7%	57.0%	52.8%	61.5%	58.3%	54.2%
Soil testing for P	81.2%	72.1%	85.5%	80.6%	81.2%	79.6%	82.2%	77.1%	79.9%
P application only when at or below optimum levels	74.3%	94.4%	94.3%	99.1%	98.2%	95.4%	91.0%	94.9%	92.7%

Phosphorus Application Practices Acreage	2017	2018	2019	2020	2021	2022	2023	2024	Average
Commercial P incorporated with planter	656,919	627,900	618,940	692,078	625,440	250,066	915,394	204,018	573,844
Commercial P broadcast & incorporated in 1 week	10,807,030	16,143,905	15,847,147	9,440,934	9,916,964	8,615,897	7,110,864	7,326,759	10,651,188
Liquid P (commercial/manure) injected	416,049	865,364	2,049,378	1,825,232	1,155,754	1,545,860	1,258,882	422,546	1,192,383
Other P application type (unincorporated)	8,591,331	4,468,931	4,137,726	10,750,218	11,130,161	12,162,282	13,008,560	13,730,126	9,747,417
Variable rate applied	NA	NA	11,358,688	10,677,472	13,106,201	12,003,149	13,937,564	13,542,364	12,437,573
Soil testing for P	18,682,577	16,563,845	19,602,047	18,818,176	18,662,091	18,095,657	18,625,588	17,892,531	18,367,814
P application only when at or below optimum levels	13,875,230	15,636,269	18,482,770	18,653,889	18,329,906	17,263,256	16,947,816	16,973,400	17,020,317

This section breaks down the tillage methods used before corn and soybeans and how those patterns have shifted over time. Conservation tillage and no-till continue to play major roles in Iowa cropping systems. No-till is especially common before soybeans, while conservation tillage remains a popular choice before corn. Overall, the trend continues toward less intensive tillage as farmers look to improve soil health, protect water quality and support long-term productivity.

Tillage Practices Percentage	2017	2018	2019	2020	2021	2022	2023	2024	Average
Conservation tillage before corn	56.3%	52.3%	46.5%	23.0%	25.4%	29.7%	23.3%	22.9%	34.9%
No-till before corn	26.4%	22.2%	29.4%	29.5%	31.6%	29.6%	32.7%	29.1%	28.8%
Conventional tillage before corn	NA	25.4%	24.1%	47.5%	43.0%	40.6%	44.0%	48.0%	38.9%
Conservation tillage before soy	42.6%	34.6%	33.8%	18.5%	19.6%	27.7%	22.1%	16.0%	26.9%
No-till before soy	43.2%	41.0%	44.6%	47.3%	53.3%	46.9%	49.7%	55.3%	47.7%
Conventional tillage before soy	NA	24.4%	21.6%	34.2%	27.1%	25.5%	28.3%	28.7%	27.1%
Combined corn & soy conservation tillage acreage	50.5%	44.6%	41.3%	21.1%	22.9%	28.8%	22.7%	19.9%	31.5%
Combined corn & soy no-till acreage	0.335	30.4%	35.6%	36.8%	41.2%	37.2%	40.1%	40.5%	36.9%
Combined corn & soy conventional tillage acreage	NA	25.0%	23.1%	42.1%	35.9%	33.9%	37.2%	39.6%	33.8%

Tillage Practices Acreage	2017	2018	2019	2020	2021	2022	2023	2024	Average
Conservation tillage before corn	7,441,970	6,805,748	6,341,092	3,171,203	3,260,594	3,768,005	2,977,177	2,995,644	4,823,684
No-till before corn	3,486,345	2,890,908	4,018,117	4,071,389	4,052,013	3,755,318	4,188,876	3,805,549	3,780,424
Conventional tillage before corn	NA	3,299,680	3,289,288	6,551,214	5,512,867	5,150,876	5,638,982	6,281,041	4,907,151
Conservation tillage before soy	4,169,316	3,441,481	3,134,088	1,764,290	1,993,219	2,782,839	2,173,803	1,623,454	2,779,862
No-till before soy	4,221,350	4,081,526	4,134,881	4,517,853	5,409,108	4,711,739	4,892,801	5,602,069	4,567,037
Conventional tillage before soy	NA	2,433,727	2,006,224	3,271,784	2,746,678	2,561,820	2,783,500	2,903,099	2,633,956
Combined corn & soy conservation tillage acreage	11,611,287	10,247,229	9,475,179	4,935,493	5,253,814	6,550,844	5,150,980	4,619,099	7,603,547
Combined corn & soy no-till acreage	7,707,695	6,972,434	8,152,999	8,589,242	9,461,121	8,467,057	9,081,676	9,407,618	8,347,461
Combined corn & soy conventional tillage acreage	NA	5,733,407	5,295,512	9,822,998	8,259,545	7,712,695	8,422,482	9,184,140	7,541,107