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**SOYBEAN PRODUCTION INDICATORS REPORT:
APPENDIX III**



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Acknowledgments

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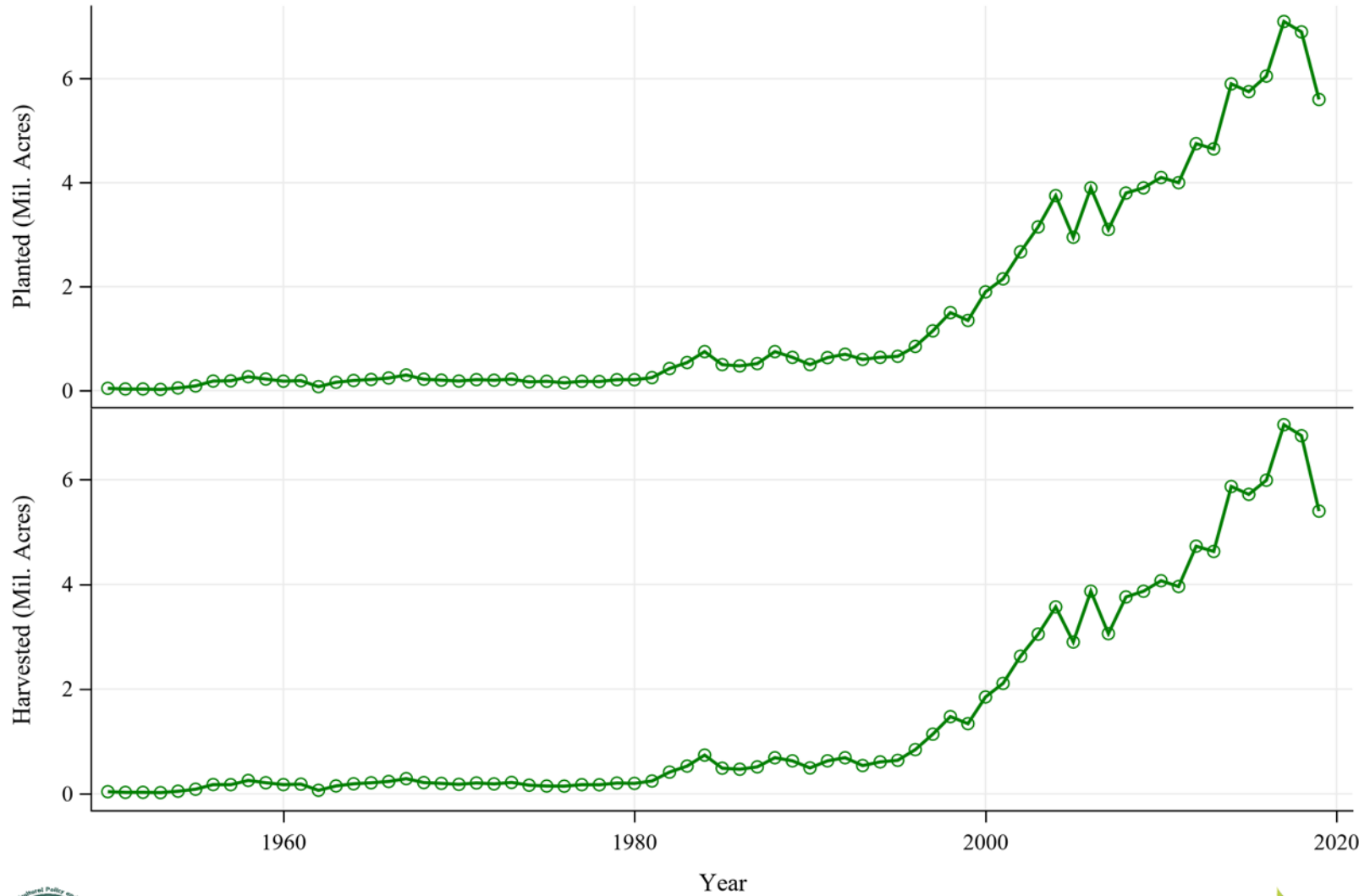
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Section III: North Dakota Counties Trend and Risk

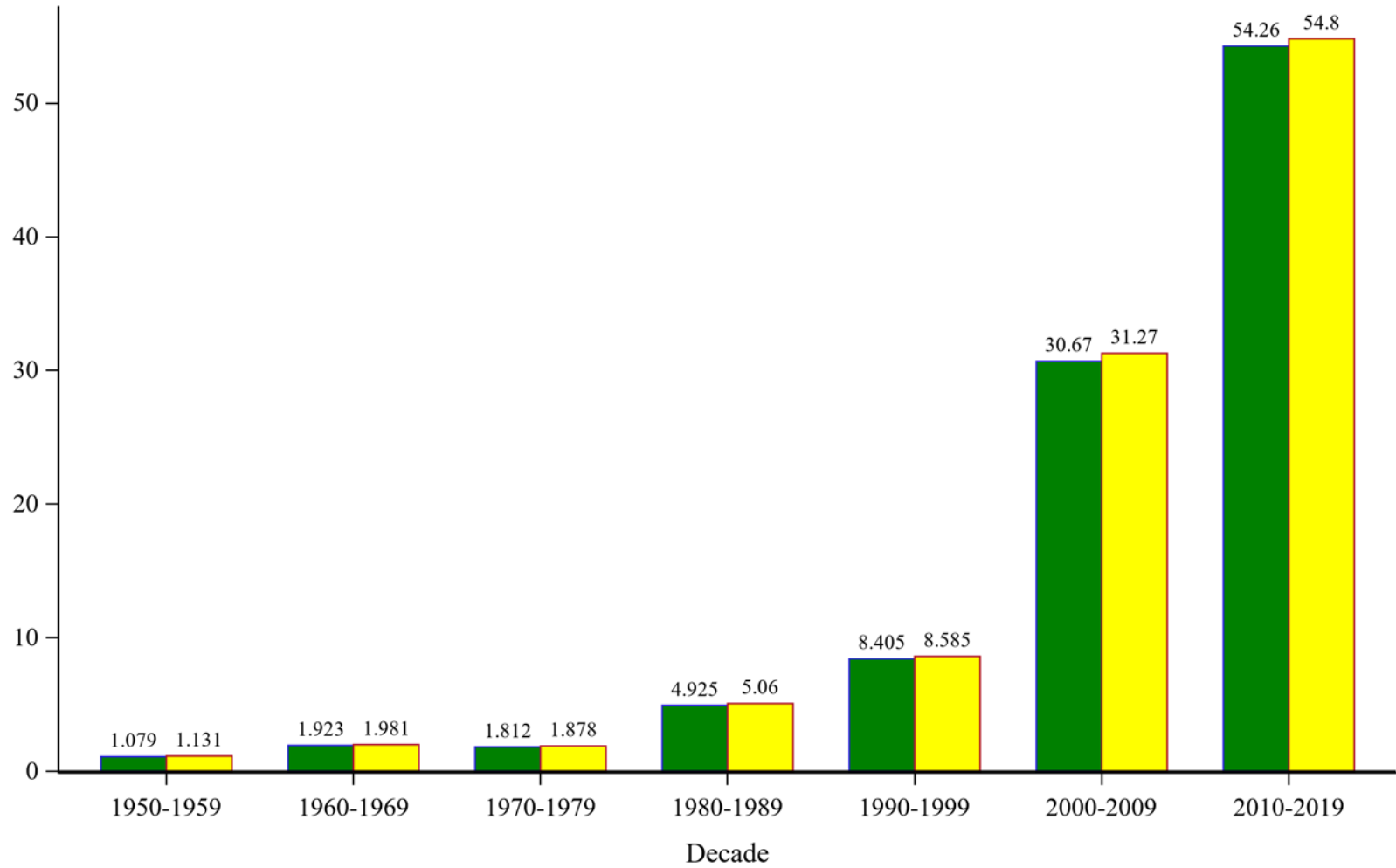
Figure 1: North Dakota Planted & Harvested Acreage, Annual Trends



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Figure 2: North Dakota Planted & Harvested Acreage, Decadal Changes



Group ■ Harvested (Mil. Acres) ■ Planted (Mil. Acres)
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Table 1: Global Planted Acreage, Descriptive Statistics

Decade	Planted (Acres)				
	N	Sum	Mean	Risk	Coefficient of Variation
1950-1959	10	1,131,000	113,100	92,463	81.8
1960-1969	10	1,981,000	198,100	57,441	29.0
1970-1979	10	1,878,000	187,800	21,953	11.7
1980-1989	10	5,060,000	506,000	182,297	36.0
1990-1999	10	8,585,000	858,500	348,919	40.6
2000-2009	10	31,270,000	3,127,000	725,535	23.2
2010-2019	10	54,800,000	5,480,000	1,082,487	19.8

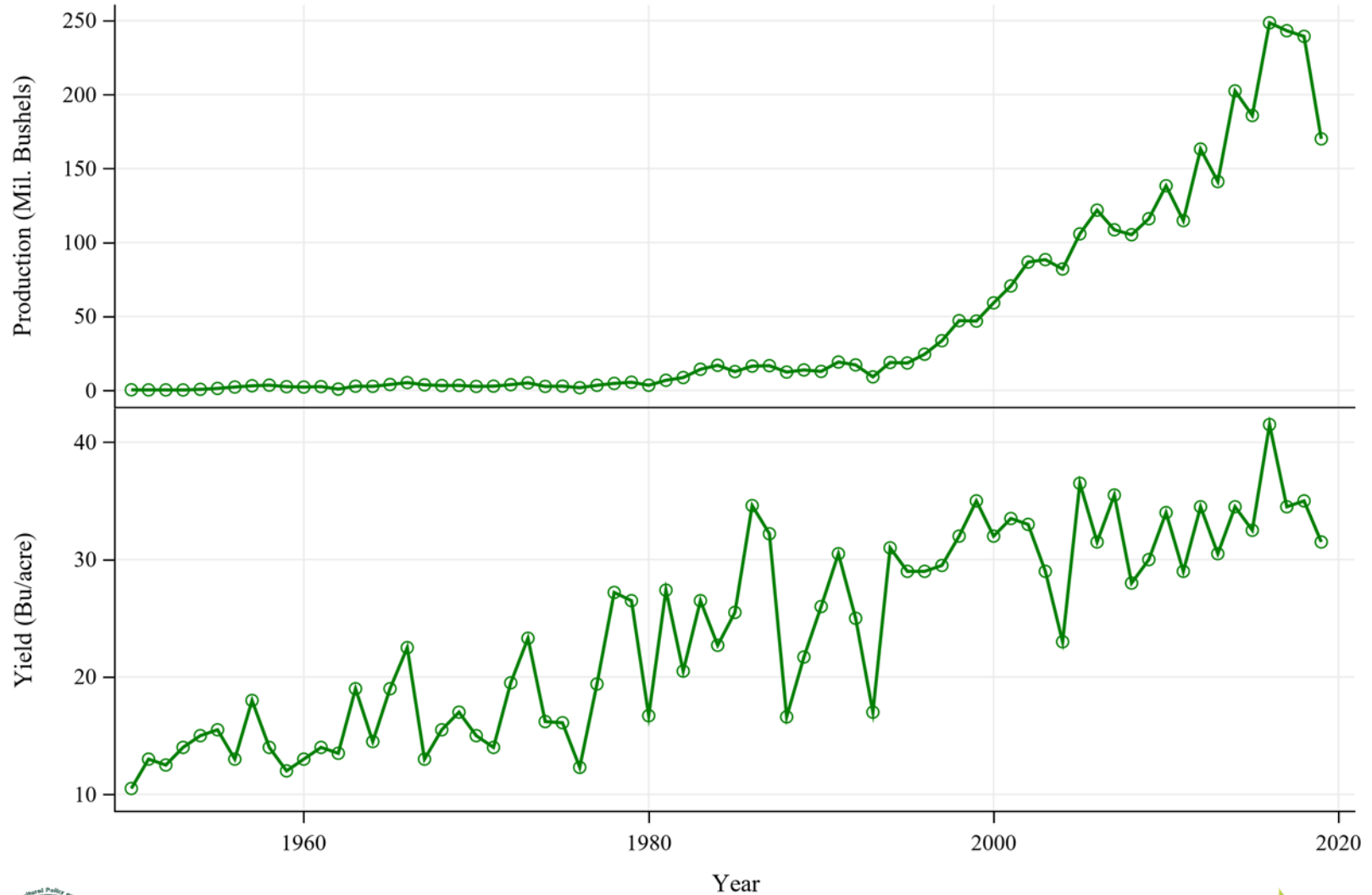
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Table 2: North Dakota Harvested Acreage, Descriptive Statistics

Decade	Harvested (Acres)				
	N	Sum	Mean	Risk	Coefficient of Variation
1950-1959	10	1,079,000	107,900	88,248	81.8
1960-1969	10	1,923,000	192,300	57,835	30.1
1970-1979	10	1,812,000	181,200	24,358	13.4
1980-1989	10	4,925,000	492,500	174,615	35.5
1990-1999	10	8,405,000	840,500	351,469	41.8
2000-2009	10	30,670,000	3,067,000	717,945	23.4
2010-2019	10	54,260,000	5,426,000	1,072,124	19.8

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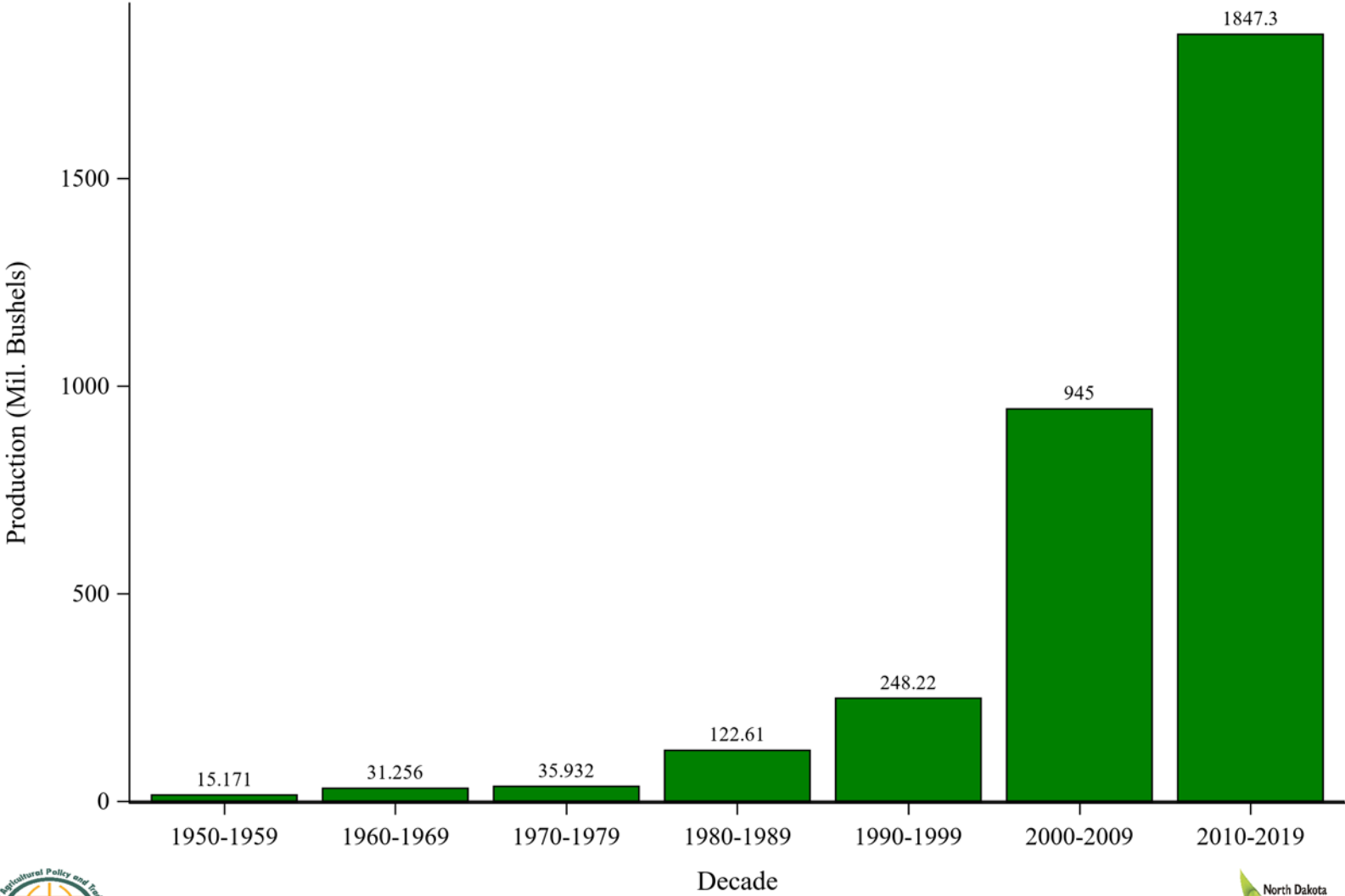
Figure 3: North Dakota Production and Yield, Annual Trends



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Figure 4: North Dakota Production, Decadal Changes



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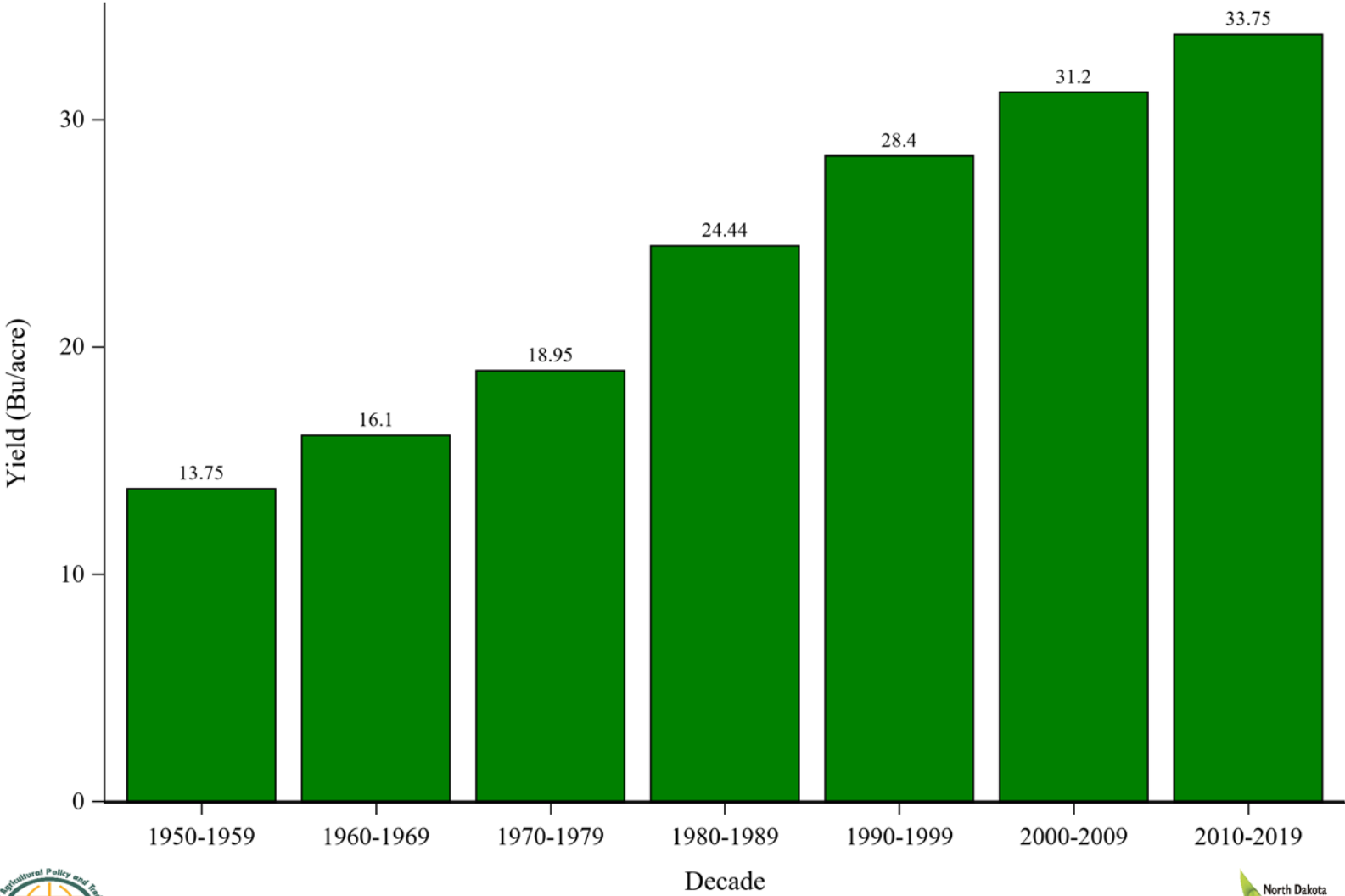


Table 3: North Dakota Production, Descriptive Statistics

Decade	Production (Bushels)				
	N	Sum	Mean	Risk	Coefficient of Variation
1950-1959	10	15,171,000	1,517,100	1,269,002	83.6
1960-1969	10	31,256,000	3,125,600	1,163,884	37.2
1970-1979	10	35,932,000	3,593,200	1,211,907	33.7
1980-1989	10	122,613,000	12,261,300	4,542,996	37.1
1990-1999	10	248,220,000	24,822,000	13,401,305	54.0
2000-2009	10	945,000,000	94,500,000	20,344,491	21.5
2010-2019	10	1,847,345,000	184,734,500	47,621,568	25.8

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Figure 5: North Dakota Yield, Decadal Changes



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Table 4: North Dakota Yield, Descriptive Statistics

Decade	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
1950-1959	10	13.75	2.08	15.2
1960-1969	10	16.10	3.20	19.8
1970-1979	10	18.95	5.21	27.5
1980-1989	10	24.44	6.01	24.6
1990-1999	10	28.40	4.91	17.3
2000-2009	10	31.20	3.94	12.6
2010-2019	10	33.75	3.39	10.0

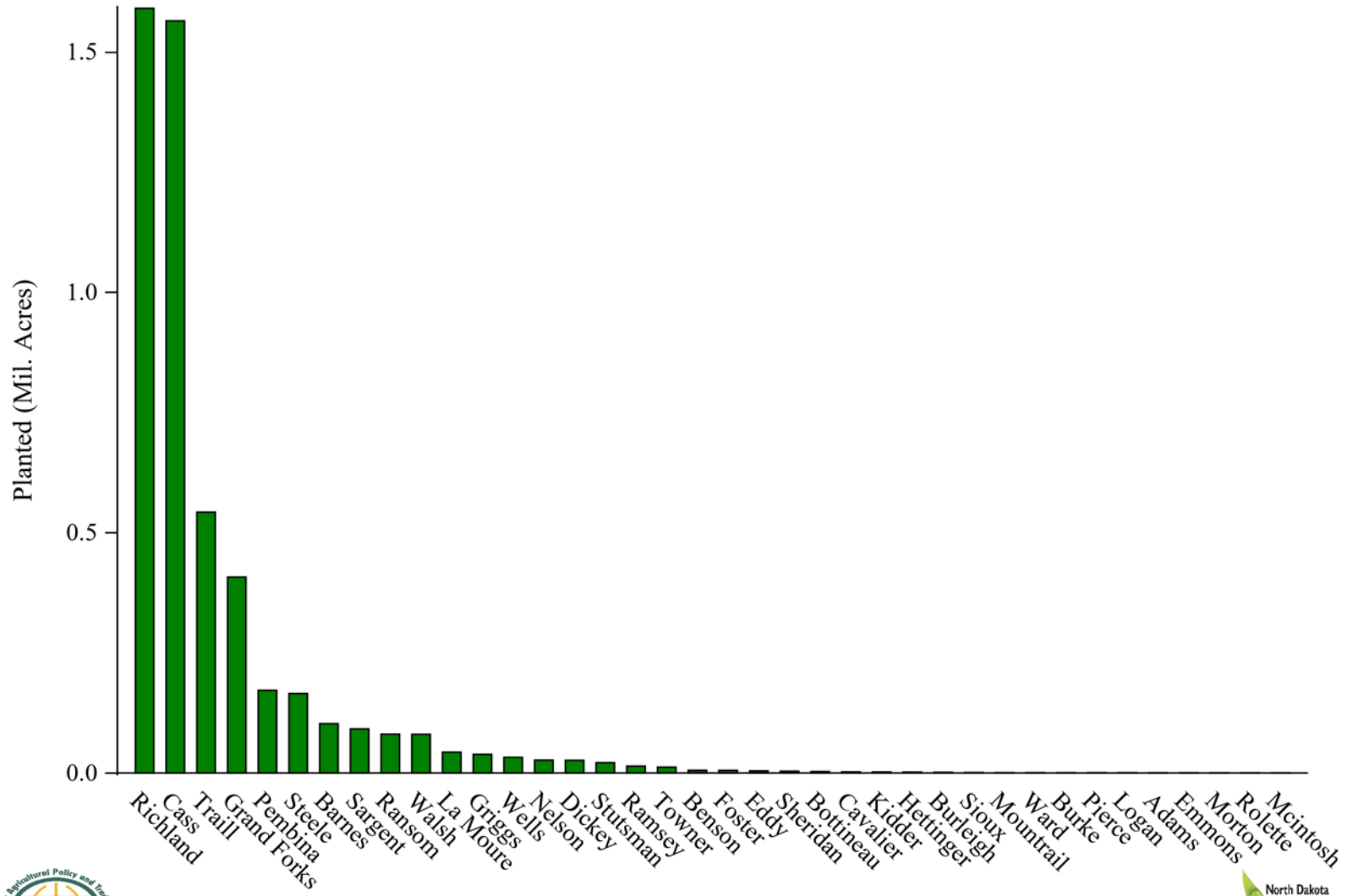
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Table 5: North Dakota Production Indicators, Annual Trends

Year	Planted (Acres)	Harvested (Acres)	Production (Bushels)	Yield (Bu/acre)
2010	4,100,000	4,070,000	138,380,000	34.0
2011	4,000,000	3,960,000	114,840,000	29.0
2012	4,750,000	4,730,000	163,185,000	34.5
2013	4,650,000	4,630,000	141,215,000	30.5
2014	5,900,000	5,870,000	202,515,000	34.5
2015	5,750,000	5,720,000	185,900,000	32.5
2016	6,050,000	5,990,000	248,585,000	41.5
2017	7,100,000	7,050,000	243,225,000	34.5
2018	6,900,000	6,840,000	239,400,000	35.0
2019	5,600,000	5,400,000	170,100,000	31.5

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Figure 6: North Dakota Counties Planted Acreage, 1980 to 1989



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Table 6: North Dakota Counties Planted Acreage, Descriptive Statistics for 1980 to 1989

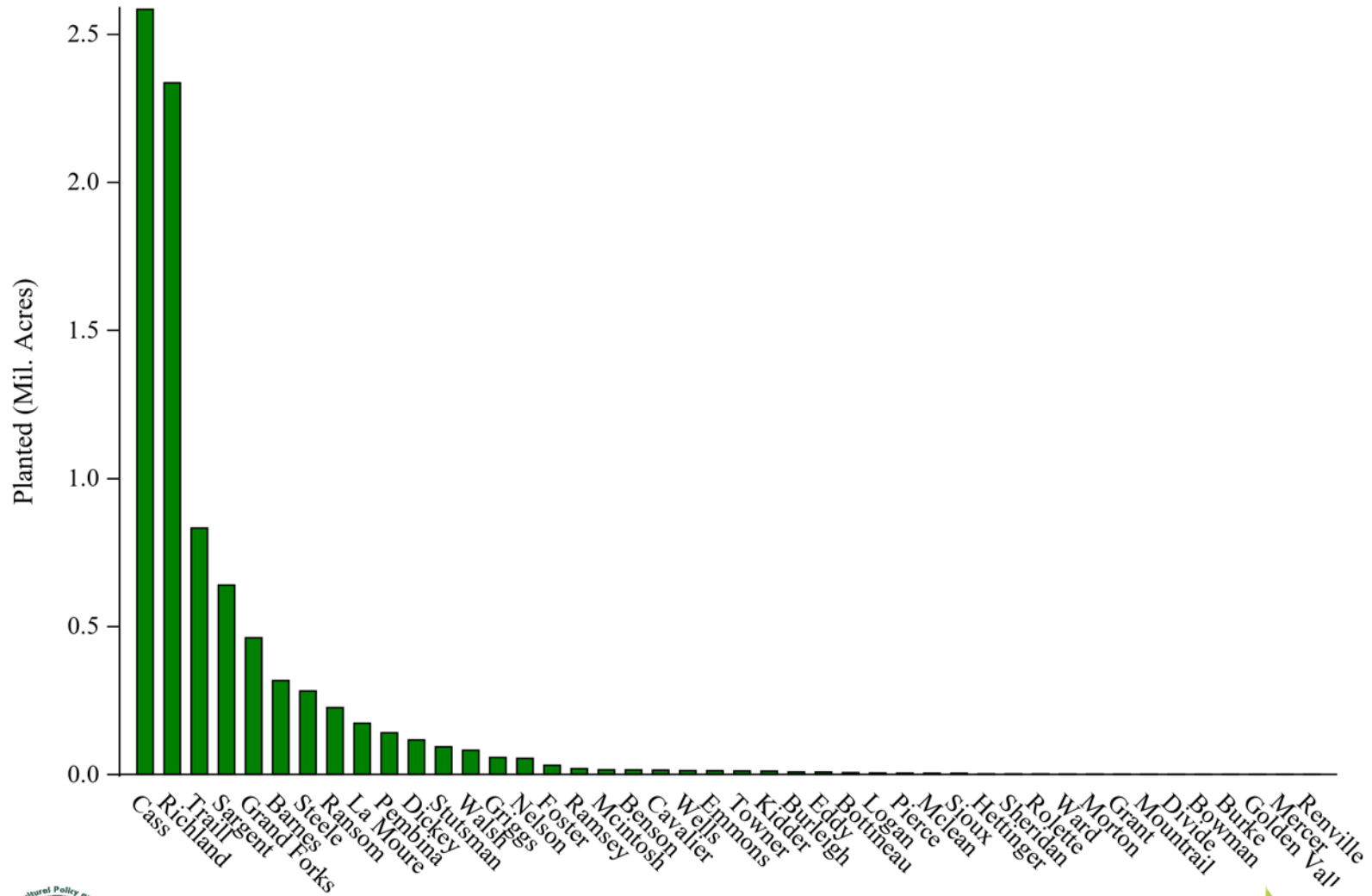
County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Richland	10	1,590,800	159,080	47,291	29.7	31.5
Cass	10	1,564,700	156,470	49,604	31.7	31.0
Traill	10	542,500	54,250	22,412	41.3	10.7
Grand Forks	10	407,500	40,750	19,993	49.1	8.07
Pembina	10	172,000	17,200	11,267	65.5	3.41
Steele	10	165,200	16,520	9,302	56.3	3.27
Barnes	10	102,500	10,250	10,092	98.5	2.03
Sargent	10	91,600	9,160	7,085	77.3	1.81
Ransom	10	80,700	8,070	2,956	36.6	1.60
Walsh	10	80,400	8,040	5,740	71.4	1.59
La Moure	10	43,200	4,320	3,640	84.2	0.86
Griggs	10	38,700	3,870	2,833	73.2	0.77
Wells	9	32,500	3,611	2,419	67.0	0.64
Nelson	9	26,600	2,956	1,866	63.1	0.53
Dickey	9	26,200	2,911	1,826	62.7	0.52
Stutsman	9	21,300	2,367	1,987	84.0	0.42
Ramsey	8	14,300	1,788	1,467	82.1	0.28
Towner	8	12,100	1,513	1,376	91.0	0.24

County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Benson	4	5,500	1,375	320	23.3	0.11
Foster	8	5,400	675	585	86.7	0.11
Eddy	8	4,300	538	207	38.4	0.09
Sheridan	6	3,600	600	555	92.5	0.07
Bottineau	4	3,000	750	332	44.2	0.06
Cavalier	6	2,300	383	331	86.4	0.05
Kidder	5	2,100	420	277	66.1	0.04
Hettinger	2	1,800	900	283	31.4	0.04
Burleigh	2	1,400	700	0	0.0	0.03
Sioux	2	1,000	500	0	0.0	0.02
Ward	2	700	350	71	20.2	0.01
Mountrail	2	700	350	212	60.6	0.01
Logan	3	600	200	100	50.0	0.01
Pierce	2	600	300	141	47.1	0.01
Burke	2	600	300	283	94.3	0.01
Adams	2	400	200	0	0.0	0.01
Emmons	2	400	200	0	0.0	0.01
Rolette	1	200	200	.	.	0.00

County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Morton	2	200	100	0	0.0	0.00
Mcintosh	1	100	100	.	.	0.00

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Figure 7: North Dakota Counties Planted Acreage, 1990 to 1999



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Table 7: North Dakota Counties Planted Acreage, Descriptive Statistics for 1990 to 1999

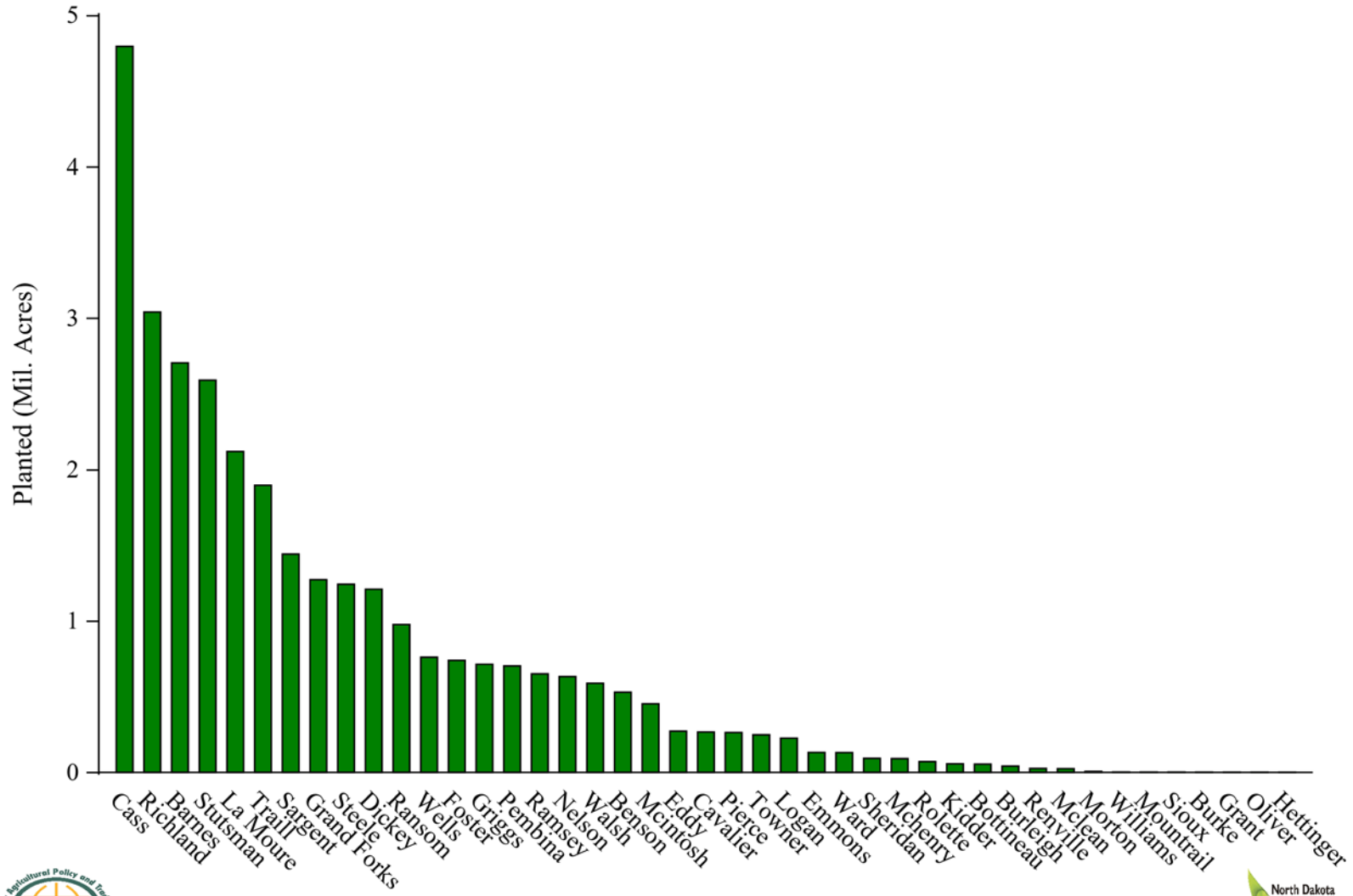
County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Cass	10	2,583,000	258,300	72,541	28.1	30.1
Richland	10	2,335,000	233,500	37,763	16.2	27.2
Traill	10	831,500	83,150	37,636	45.3	9.70
Sargent	10	638,900	63,890	29,395	46.0	7.45
Grand Forks	10	461,000	46,100	23,878	51.8	5.38
Barnes	10	316,700	31,670	30,711	97.0	3.69
Steele	10	281,500	28,150	18,025	64.0	3.28
Ransom	10	225,200	22,520	14,067	62.5	2.63
La Moure	10	172,500	17,250	15,270	88.5	2.01
Pembina	10	140,300	14,030	17,966	128	1.64
Dickey	10	116,000	11,600	10,181	87.8	1.35
Stutsman	10	92,900	9,290	13,384	144	1.08
Walsh	10	81,200	8,120	9,558	118	0.95
Griggs	10	56,800	5,680	5,913	104	0.66
Nelson	10	53,900	5,390	6,031	112	0.63
Foster	10	30,400	3,040	4,057	133	0.35
Ramsey	7	19,300	2,757	3,773	137	0.23
Mcintosh	7	15,300	2,186	2,235	102	0.18

County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Benson	10	15,000	1,500	2,289	153	0.17
Cavalier	8	14,200	1,775	1,970	111	0.17
Wells	9	12,400	1,378	1,720	125	0.14
Emmons	9	12,100	1,344	1,647	123	0.14
Towner	8	11,300	1,413	1,927	136	0.13
Kidder	7	10,700	1,529	1,220	79.8	0.12
Burleigh	7	8,000	1,143	1,292	113	0.09
Eddy	8	7,800	975	616	63.2	0.09
Bottineau	7	5,800	829	582	70.3	0.07
Logan	4	4,600	1,150	995	86.5	0.05
Pierce	3	4,200	1,400	1,253	89.5	0.05
Mclean	8	4,000	500	447	89.4	0.05
Sioux	8	3,900	488	376	77.1	0.05
Hettinger	4	1,800	450	173	38.5	0.02
Sheridan	4	1,700	425	395	92.9	0.02
Rolette	2	1,600	800	990	124	0.02
Ward	2	1,100	550	212	38.6	0.01
Morton	3	1,000	333	404	121	0.01

County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Grant	2	600	300	283	94.3	0.01
Mountrail	2	300	150	71	47.1	0.00
Divide	1	200	200	.	.	0.00
Golden Valley	1	100	100	.	.	0.00
Bowman	1	100	100	.	.	0.00
Burke	1	100	100	.	.	0.00
Renville	1	100	100	.	.	0.00
Mercer	1	100	100	.	.	0.00

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Figure 8: North Dakota Counties Planted Acreage, 2000 to 2009



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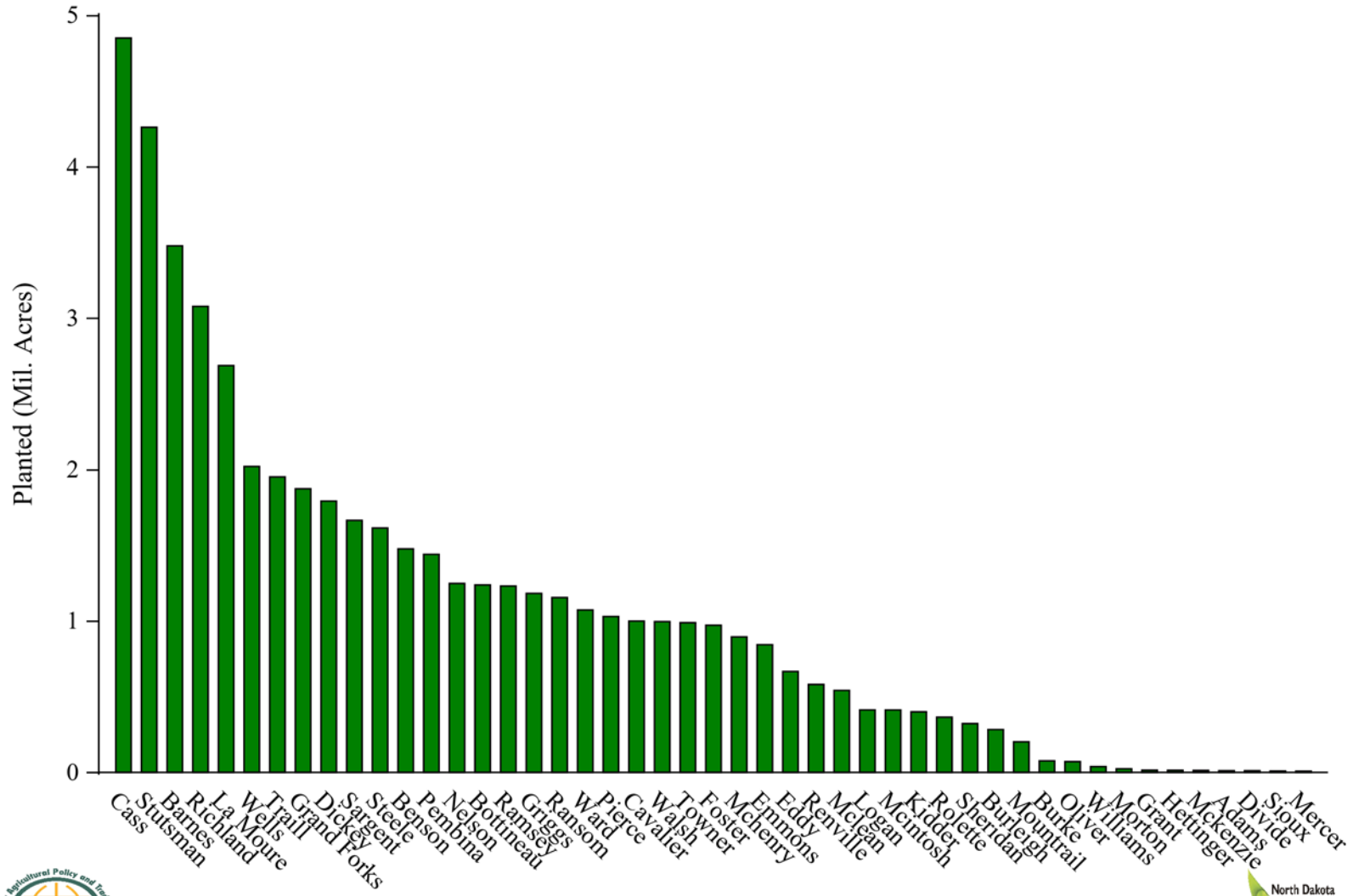
Table 8: North Dakota Counties Planted Acreage, Descriptive Statistics for 2000 to 2009

County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Cass	10	4,796,000	479,600	38,301	8.0	15.4
Richland	10	3,041,000	304,100	15,822	5.2	9.78
Barnes	10	2,705,000	270,500	69,491	25.7	8.70
Stutsman	10	2,591,000	259,100	104,381	40.3	8.34
La Moure	10	2,120,000	212,000	55,299	26.1	6.82
Traill	10	1,897,000	189,700	24,909	13.1	6.10
Sargent	10	1,442,000	144,200	11,507	8.0	4.64
Grand Forks	10	1,273,000	127,300	34,153	26.8	4.10
Steele	10	1,243,000	124,300	28,359	22.8	4.00
Dickey	10	1,210,000	121,000	27,439	22.7	3.89
Ransom	10	977,000	97,700	15,671	16.0	3.14
Wells	9	761,000	84,556	44,240	52.3	2.45
Foster	10	740,000	74,000	37,535	50.7	2.38
Griggs	10	714,000	71,400	29,018	40.6	2.30
Pembina	10	703,000	70,300	25,184	35.8	2.26
Ramsey	10	650,900	65,090	32,766	50.3	2.09
Nelson	10	633,000	63,300	29,318	46.3	2.04
Walsh	10	588,500	58,850	19,442	33.0	1.89

County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Benson	10	529,700	52,970	33,117	62.5	1.70
Mcintosh	10	453,000	45,300	16,958	37.4	1.46
Eddy	10	272,500	27,250	16,960	62.2	0.88
Cavalier	10	266,500	26,650	13,476	50.6	0.86
Pierce	9	263,400	29,267	16,245	55.5	0.85
Towner	10	248,100	24,810	11,249	45.3	0.80
Logan	10	226,000	22,600	12,791	56.6	0.73
Emmons	9	131,500	14,611	3,557	24.3	0.42
Ward	9	130,600	14,511	9,300	64.1	0.42
Sheridan	7	92,900	13,271	8,260	62.2	0.30
Mchenry	9	90,800	10,089	5,395	53.5	0.29
Rolette	10	71,200	7,120	4,120	57.9	0.23
Kidder	8	56,400	7,050	3,068	43.5	0.18
Bottineau	10	54,400	5,440	2,376	43.7	0.18
Burleigh	8	41,400	5,175	1,660	32.1	0.13
Renville	8	25,700	3,213	1,204	37.5	0.08
Mclean	5	24,200	4,840	3,600	74.4	0.08
Morton	4	6,900	1,725	386	22.4	0.02

County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Williams	1	2,700	2,700	.	.	0.01
Sioux	2	2,400	1,200	424	35.4	0.01
Mountrail	2	2,400	1,200	141	11.8	0.01
Burke	2	1,500	750	212	28.3	0.00
Grant	2	1,100	550	71	12.9	0.00
Oliver	1	800	800	.	.	0.00
Hettinger	1	500	500	.	.	0.00

Figure 9: North Dakota Counties Planted Acreage, 2010 to 2019



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Table 9: North Dakota Counties Planted Acreage, Descriptive Statistics for 2010 to 2019

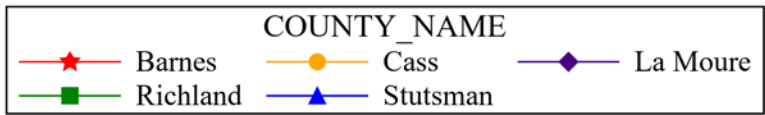
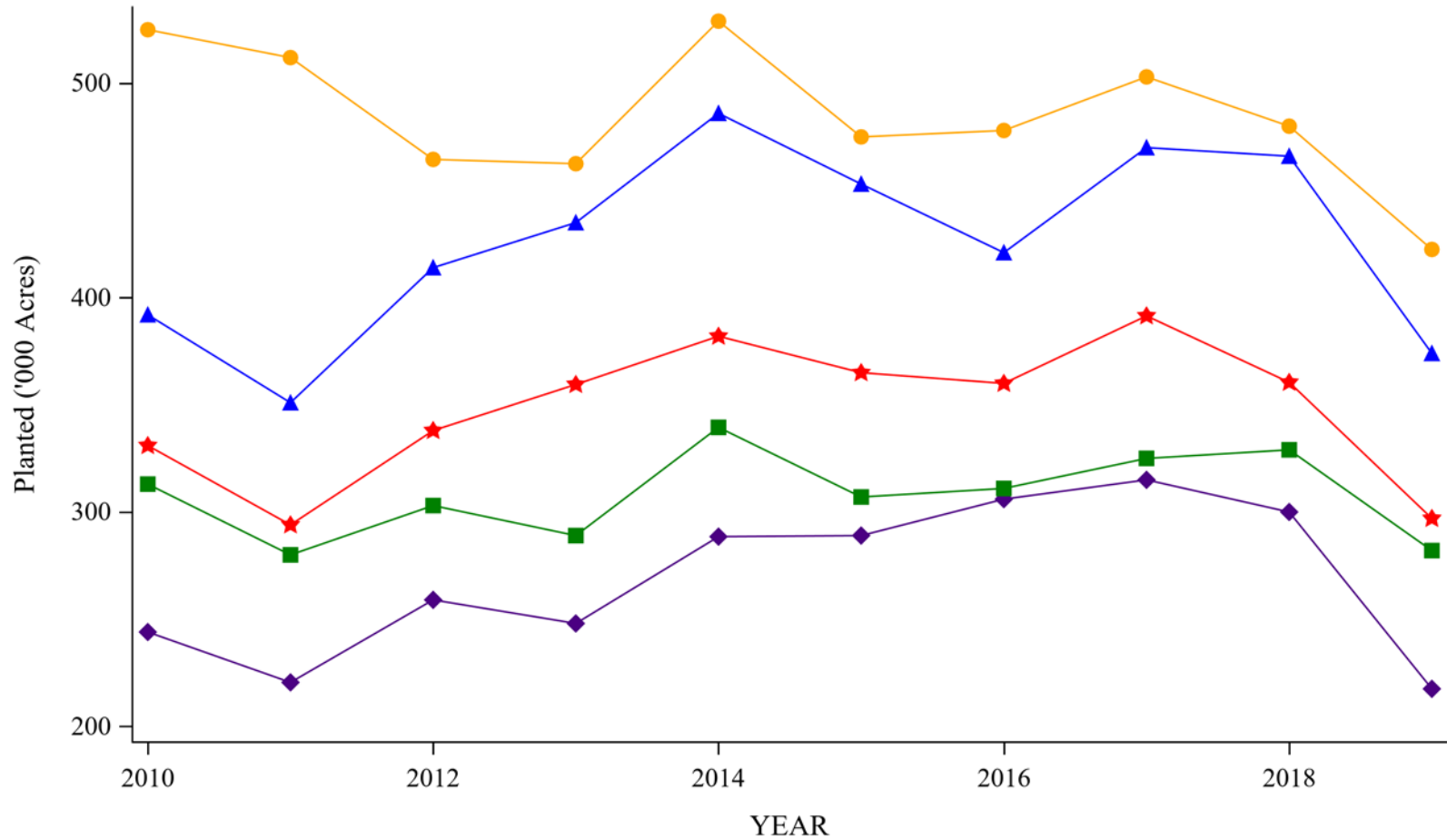
County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Cass	10	4,851,500	485,150	32,652	6.7	9.60
Stutsman	10	4,262,000	426,200	44,221	10.4	8.44
Barnes	10	3,478,500	347,850	32,788	9.4	6.89
Richland	10	3,078,500	307,850	20,008	6.5	6.09
La Moure	10	2,687,500	268,750	35,584	13.2	5.32
Wells	10	2,021,000	202,100	26,417	13.1	4.00
Traill	10	1,952,000	195,200	17,176	8.8	3.86
Grand Forks	10	1,873,500	187,350	33,926	18.1	3.71
Dickey	10	1,792,000	179,200	30,236	16.9	3.55
Sargent	10	1,665,000	166,500	19,960	12.0	3.30
Steele	10	1,614,500	161,450	12,424	7.7	3.20
Benson	9	1,476,500	164,056	29,110	17.7	2.92
Pembina	10	1,440,500	144,050	34,113	23.7	2.85
Nelson	10	1,248,100	124,810	21,817	17.5	2.47
Bottineau	9	1,238,200	137,578	100,428	73.0	2.45
Ramsey	9	1,231,000	136,778	29,072	21.3	2.44
Griggs	10	1,182,500	118,250	11,622	9.8	2.34
Ransom	9	1,155,000	128,333	20,370	15.9	2.29

County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Ward	8	1,072,800	134,100	71,492	53.3	2.12
Pierce	10	1,029,700	102,970	25,499	24.8	2.04
Cavalier	10	999,500	99,950	49,859	49.9	1.98
Walsh	9	996,000	110,667	28,566	25.8	1.97
Towner	10	988,900	98,890	40,191	40.6	1.96
Foster	7	972,000	138,857	20,570	14.8	1.92
Mchenry	9	895,000	99,444	57,405	57.7	1.77
Emmons	10	843,400	84,340	39,454	46.8	1.67
Eddy	9	666,500	74,056	12,859	17.4	1.32
Renville	8	580,900	72,613	49,364	68.0	1.15
Mclean	5	541,500	108,300	48,758	45.0	1.07
Logan	5	412,400	82,480	22,813	27.7	0.82
Mcintosh	4	412,100	103,025	26,065	25.3	0.82
Kidder	7	400,100	57,157	23,895	41.8	0.79
Rolette	9	364,600	40,511	20,712	51.1	0.72
Sheridan	5	322,200	64,440	29,691	46.1	0.64
Burleigh	5	282,800	56,560	47,956	84.8	0.56
Mountrail	4	201,800	50,450	25,870	51.3	0.40

County	Planted (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Burke	2	76,000	38,000	8,485	22.3	0.15
Oliver	4	71,200	17,800	6,764	38.0	0.14
Williams	4	37,900	9,475	6,577	69.4	0.08
Morton	2	23,600	11,800	7,071	59.9	0.05
Grant	3	14,500	4,833	6,735	139	0.03
Hettinger	2	13,900	6,950	2,192	31.5	0.03
Mckenzie	4	12,700	3,175	1,539	48.5	0.03
Adams	2	10,900	5,450	1,485	27.2	0.02
Divide	1	10,900	10,900	.	.	0.02
Sioux	1	8,900	8,900	.	.	0.02
Mercer	1	8,100	8,100	.	.	0.02

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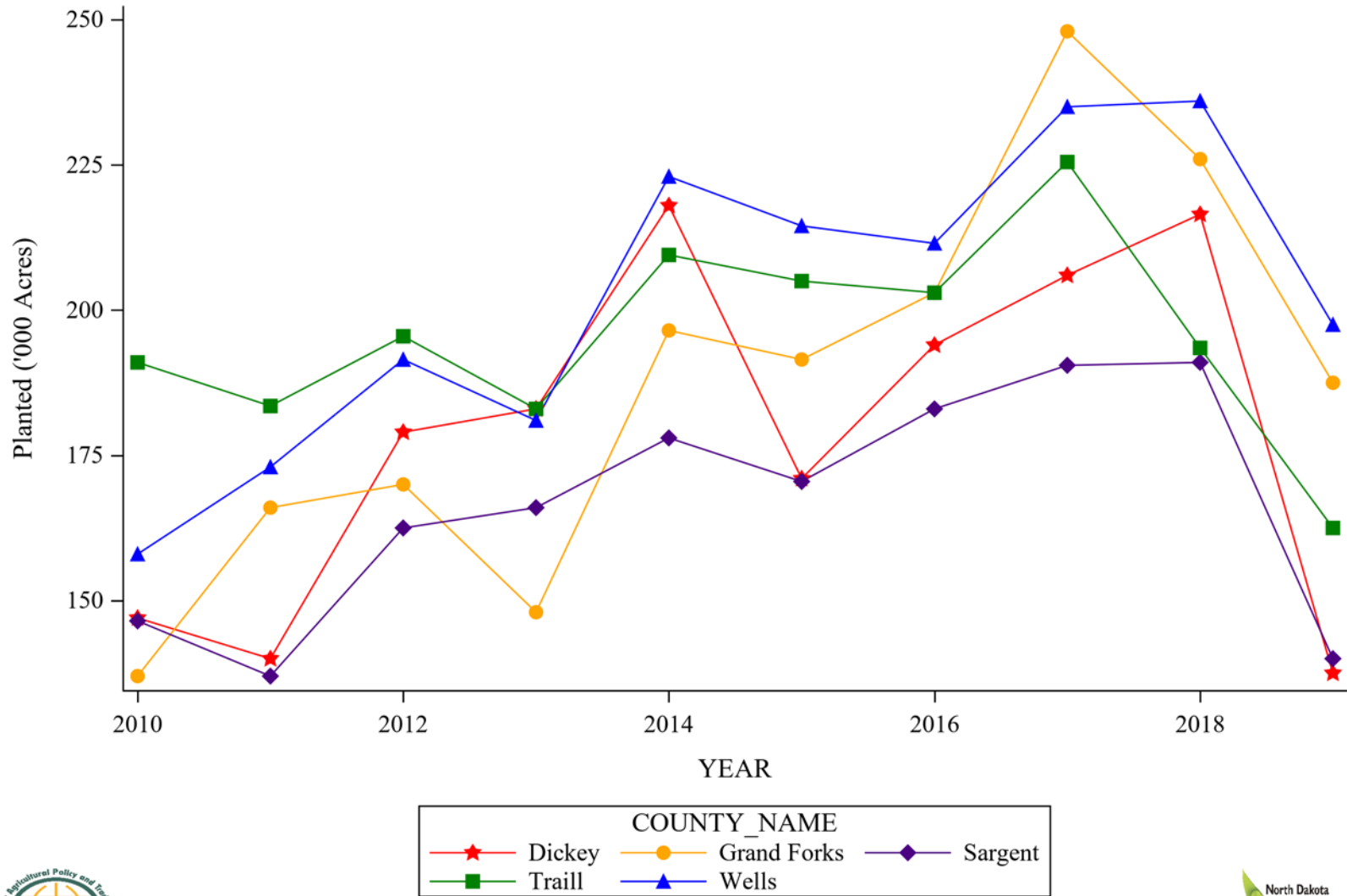
Figure 10: Top 5 North Dakota Counties Planted Acreage, Annual Trends



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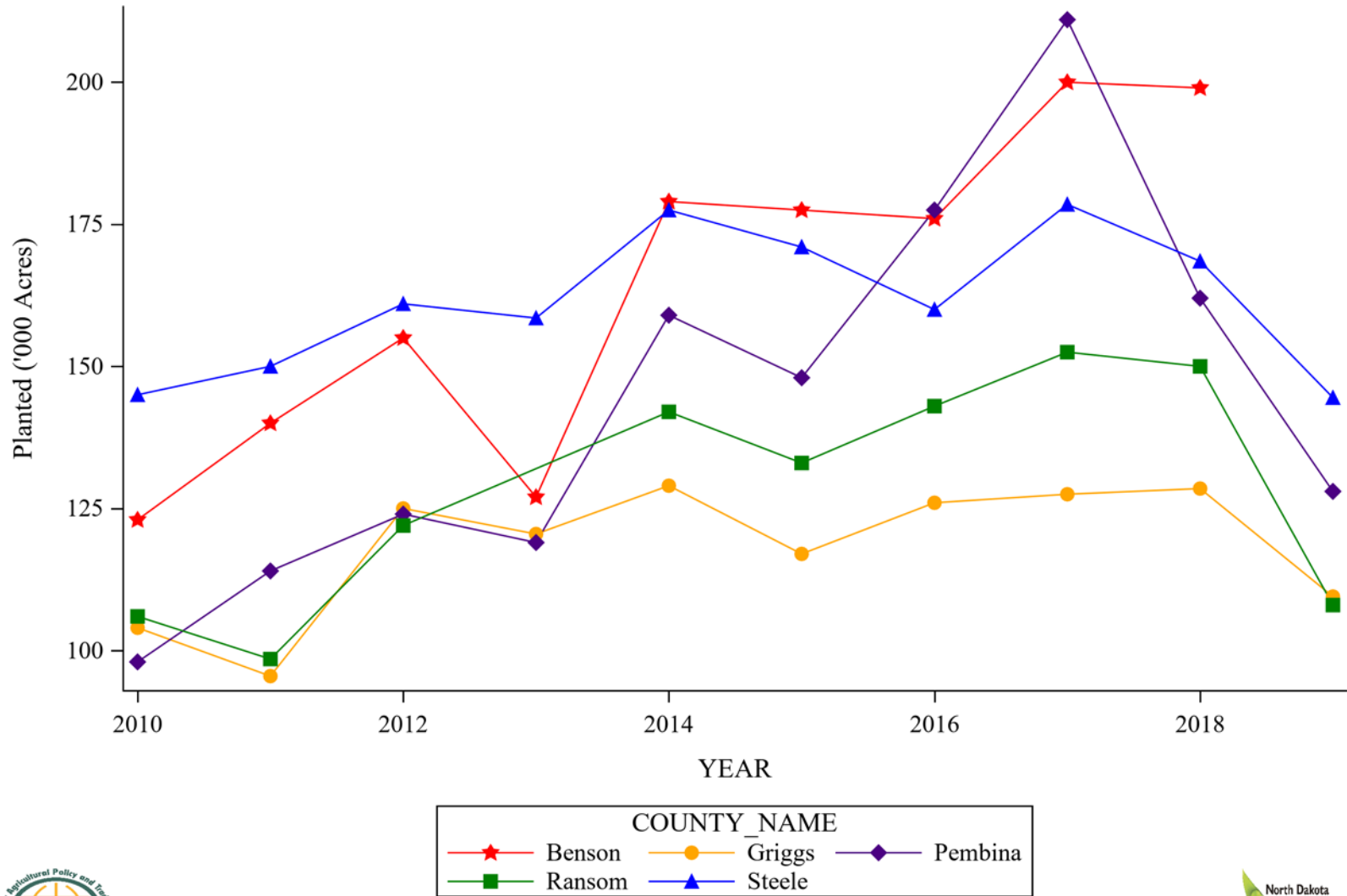
Figure 11: Top 6 to 10 North Dakota Counties Planted Acreage, Annual Trends



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Figure 12: Top 11 to 15 North Dakota Counties Planted Acreage, Annual Trends



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Table 10: Top 15 North Dakota Counties Planted Acreage, Annual Trends

County	Planted (Acres)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cass	525,000	512,000	464,500	462,500	529,000	475,000	478,000	503,000	480,000	422,500
Stutsman	392,000	351,000	414,000	435,000	486,000	453,000	421,000	470,000	466,000	374,000
Barnes	331,000	294,000	338,000	359,500	382,000	365,000	360,000	391,500	360,500	297,000
Richland	313,000	280,000	303,000	289,000	339,500	307,000	311,000	325,000	329,000	282,000
La Moure	244,000	220,500	259,000	248,000	288,500	289,000	306,000	315,000	300,000	217,500
Traill	191,000	183,500	195,500	183,000	209,500	205,000	203,000	225,500	193,500	162,500
Dickey	147,000	140,000	179,000	183,000	218,000	171,000	194,000	206,000	216,500	137,500
Wells	158,000	173,000	191,500	181,000	223,000	214,500	211,500	235,000	236,000	197,500
Sargent	146,500	137,000	162,500	166,000	178,000	170,500	183,000	190,500	191,000	140,000
Grand Forks	137,000	166,000	170,000	148,000	196,500	191,500	203,000	248,000	226,000	187,500
Steele	145,000	150,000	161,000	158,500	177,500	171,000	160,000	178,500	168,500	144,500
Ransom	106,000	98,500	122,000	.	142,000	133,000	143,000	152,500	150,000	108,000
Pembina	98,000	114,000	124,000	119,000	159,000	148,000	177,500	211,000	162,000	128,000
Benson	123,000	140,000	155,000	127,000	179,000	177,500	176,000	200,000	199,000	.
Griggs	104,000	95,500	125,000	120,500	129,000	117,000	126,000	127,500	128,500	109,500
Ramsey	99,000	115,000	140,000	96,000	140,000	138,000	155,000	180,000	168,000	.
Bottineau	18,000	7,600	52,100	.	104,500	137,500	191,000	282,500	260,000	185,000
Nelson	89,100	96,000	108,000	120,000	140,500	134,000	144,500	156,000	138,000	122,000
Walsh	72,000	85,000	101,000	82,000	123,000	110,000	130,000	160,000	133,000	.
Pierce	64,100	64,500	91,800	81,300	122,500	115,500	118,000	131,500	127,000	113,500
Ward	22,000	.	53,800	.	104,000	128,500	168,500	215,500	219,500	161,000
Foster	116,500	112,000	132,500	.	.	159,500	154,500	163,000	.	134,000

County	Planted (Acres)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Towner	55,600	47,000	72,800	49,000	100,000	109,500	131,000	151,000	144,000	129,000
Cavalier	45,300	29,000	54,200	68,000	106,000	119,000	133,000	188,000	142,000	115,000
Emmons	33,900	35,100	50,500	60,700	91,300	97,700	88,200	145,000	140,500	100,500
Mchenry	21,400	18,000	47,100	.	98,000	115,500	130,000	161,000	166,000	138,000
Eddy	51,500	60,000	66,800	82,200	86,000	80,000	.	83,000	88,500	68,500
Mclean	.	.	.	45,400	80,600	.	106,000	.	170,000	139,500
Renville	3,900	.	16,800	.	39,000	66,200	101,000	144,000	110,000	100,000
Mcintosh	84,100	79,000	.	.	.	.	115,000	134,000	.	.
Kidder	25,000	27,300	.	53,300	67,000	62,000	.	77,500	88,000	.
Logan	58,400	61,000	.	95,000	.	.	86,000	112,000	.	.
Rolette	18,500	13,900	31,000	17,200	50,000	51,000	52,000	69,000	62,000	.
Sheridan	29,000	35,700	.	.	.	81,000	84,000	92,500	.	.
Burleigh	14,900	18,300	33,600	.	.	.	.	98,500	117,500	.
Mountrail	.	.	.	.	.	14,800	.	49,500	74,500	63,000
Oliver	.	.	.	.	10,800	.	13,400	.	24,900	22,100
Burke	.	.	.	.	.	.	.	.	44,000	32,000
Williams	.	.	2,400	.	18,300	.	8,200	9,000	.	.
Morton	.	.	6,800	.	.	.	16,800	.	.	.
Mckenzie	.	.	.	1,300	.	.	.	2,700	3,800	4,900
Grant	1,300	600	.	.	.	.	.	.	.	12,600
Sioux	.	.	.	.	.	.	.	.	.	8,900
Hettinger	.	.	.	.	.	.	.	5,400	.	8,500
Adams	.	.	.	.	.	.	.	4,400	.	6,500

County	Planted (Acres)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mercer	8,100	.	.	.
Divide	10,900

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Table 11: Top 15 North Dakota Counties Share based on Planted Acreage, Annual Trends

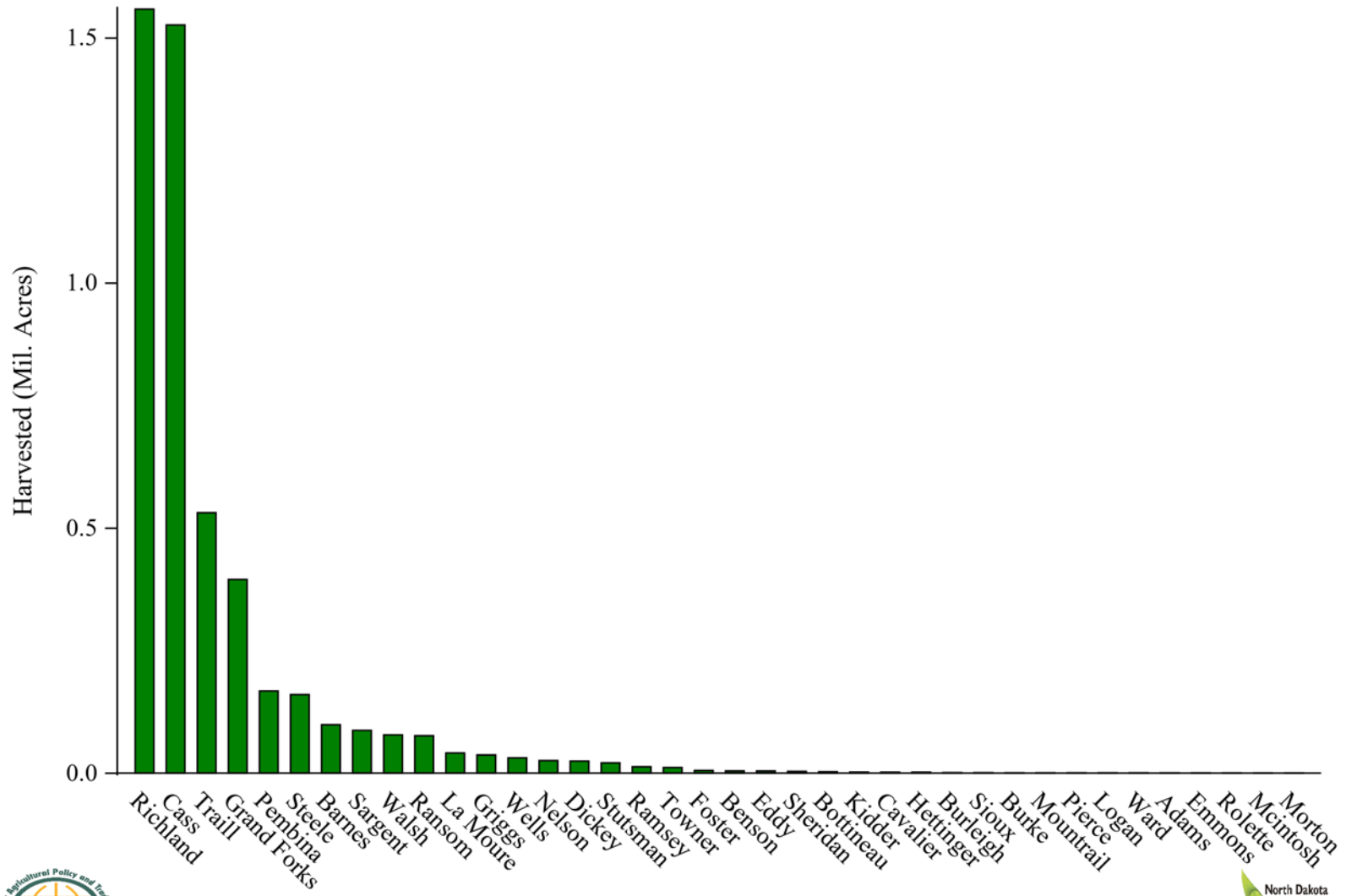
County	Share(percentages)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cass	12.86	12.93	10.50	11.47	9.93	8.95	8.26	7.40	7.71	9.24
Stutsman	9.60	8.86	9.36	10.79	9.12	8.53	7.27	6.92	7.48	8.18
Barnes	8.10	7.42	7.64	8.92	7.17	6.88	6.22	5.76	5.79	6.50
Richland	7.66	7.07	6.85	7.17	6.37	5.78	5.37	4.78	5.28	6.17
La Moure	5.97	5.57	5.85	6.15	5.41	5.44	5.29	4.64	4.82	4.76
Trail	4.68	4.63	4.42	4.54	3.93	3.86	3.51	3.32	3.11	3.55
Dickey	3.60	3.54	4.05	4.54	4.09	3.22	3.35	3.03	3.48	3.01
Wells	3.87	4.37	4.33	4.49	4.18	4.04	3.65	3.46	3.79	4.32
Sargent	3.59	3.46	3.67	4.12	3.34	3.21	3.16	2.80	3.07	3.06
Grand Forks	3.35	4.19	3.84	3.67	3.69	3.61	3.51	3.65	3.63	4.10
Steele	3.55	3.79	3.64	3.93	3.33	3.22	2.76	2.63	2.71	3.16
Ransom	2.60	2.49	2.76	.	2.66	2.51	2.47	2.24	2.41	2.36
Pembina	2.40	2.88	2.80	2.95	2.98	2.79	3.07	3.11	2.60	2.80
Benson	3.01	3.54	3.50	3.15	3.36	3.34	3.04	2.94	3.20	.
Griggs	2.55	2.41	2.82	2.99	2.42	2.20	2.18	1.88	2.06	2.39
Ramsey	2.42	2.90	3.16	2.38	2.63	2.60	2.68	2.65	2.70	.
Bottineau	0.44	0.19	1.18	.	1.96	2.59	3.30	4.16	4.17	4.05
Nelson	2.18	2.42	2.44	2.98	2.64	2.52	2.50	2.30	2.22	2.67
Walsh	1.76	2.15	2.28	2.03	2.31	2.07	2.25	2.36	2.14	.
Pierce	1.57	1.63	2.07	2.02	2.30	2.18	2.04	1.94	2.04	2.48
Ward	0.54	.	1.22	.	1.95	2.42	2.91	3.17	3.52	3.52
Foster	2.85	2.83	2.99	.	.	3.01	2.67	2.40	.	2.93

County	Share(percentages)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Towner	1.36	1.19	1.65	1.22	1.88	2.06	2.26	2.22	2.31	2.82
Cavalier	1.11	0.73	1.22	1.69	1.99	2.24	2.30	2.77	2.28	2.52
Emmons	0.83	0.89	1.14	1.51	1.71	1.84	1.52	2.13	2.26	2.20
Mchenry	0.52	0.45	1.06	.	1.84	2.18	2.25	2.37	2.67	3.02
Eddy	1.26	1.52	1.51	2.04	1.61	1.51	.	1.22	1.42	1.50
Mclean	.	.	.	1.13	1.51	.	1.83	.	2.73	3.05
Renville	0.10	.	0.38	.	0.73	1.25	1.75	2.12	1.77	2.19
Mcintosh	2.06	1.99	.	.	.	.	1.99	1.97	.	.
Kidder	0.61	0.69	.	1.32	1.26	1.17	.	1.14	1.41	.
Logan	1.43	1.54	.	2.36	.	.	1.49	1.65	.	.
Rolette	0.45	0.35	0.70	0.43	0.94	0.96	0.90	1.02	1.00	.
Sheridan	0.71	0.90	.	.	.	1.53	1.45	1.36	.	.
Burleigh	0.36	0.46	0.76	.	.	.	.	1.45	1.89	.
Mountrail	.	.	.	.	.	0.28	.	0.73	1.20	1.38
Oliver	.	.	.	.	0.20	.	0.23	.	0.40	0.48
Burke	.	.	.	.	.	.	.	.	0.71	0.70
Williams	.	.	0.05	.	0.34	.	0.14	0.13	.	.
Morton	.	.	0.15	.	.	.	0.29	.	.	.
Mckenzie	.	.	.	0.03	.	.	.	0.04	0.06	0.11
Grant	0.03	0.02	.	.	.	.	.	.	.	0.28
Sioux	.	.	.	.	.	.	.	.	.	0.19
Hettinger	.	.	.	.	.	.	.	0.08	.	0.19
Adams	.	.	.	.	.	.	.	0.06	.	0.14

	Share(percentages)									
County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mercer	0.14	.	.	.
Divide	0.20

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Figure 13: North Dakota Counties Harvested Acreage, 1980 to 1989



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Table 12: North Dakota Counties Harvested Acreage, Descriptive Statistics for 1980 to 1989

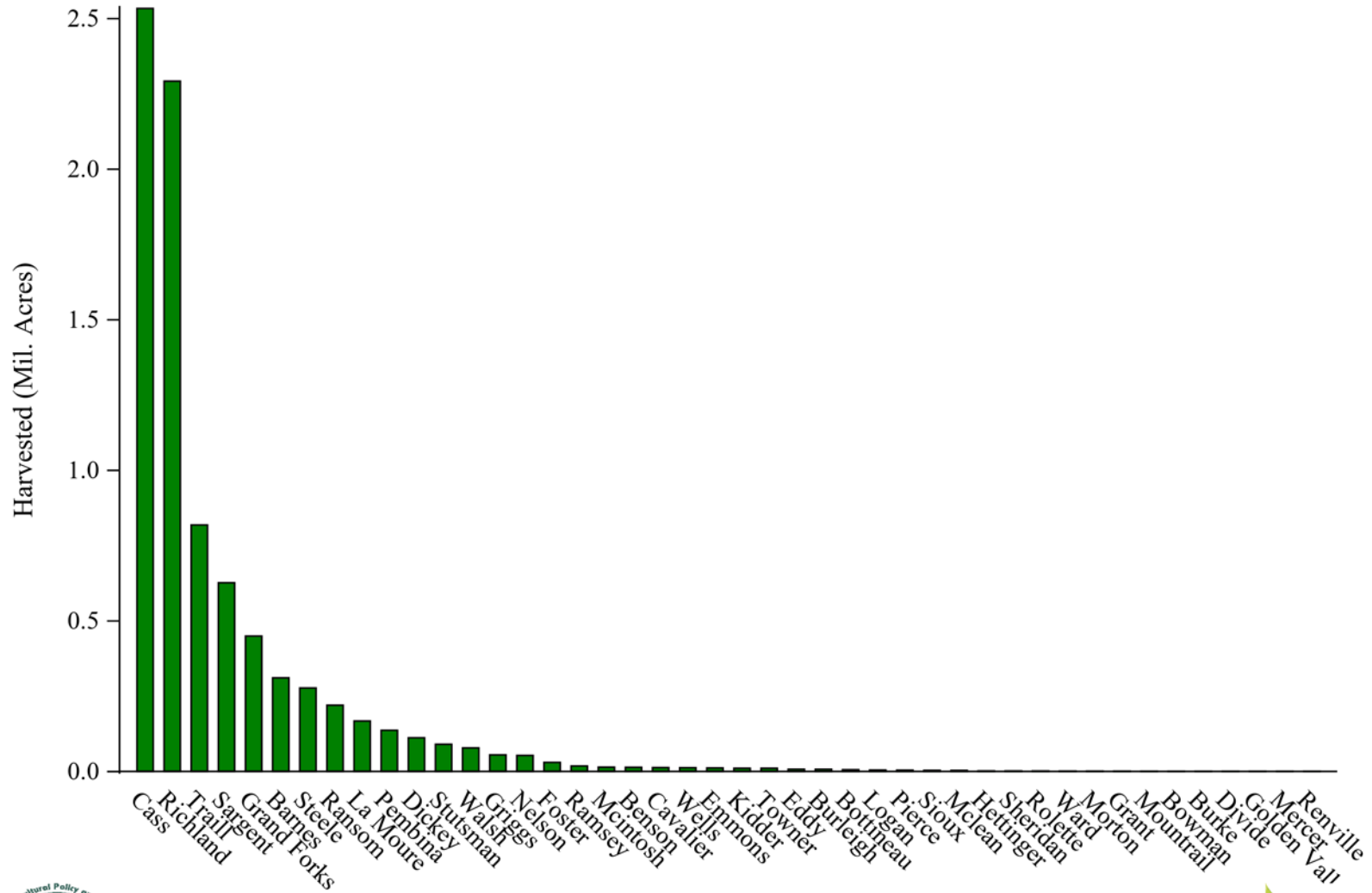
County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Richland	10	1,558,300	155,830	46,940	30.1	31.7
Cass	10	1,526,100	152,610	46,913	30.7	31.1
Traill	10	531,100	53,110	21,989	41.4	10.8
Grand Forks	10	395,000	39,500	19,716	49.9	8.04
Pembina	10	167,500	16,750	11,121	66.4	3.41
Steele	10	160,100	16,010	8,882	55.5	3.26
Barnes	10	98,600	9,860	9,563	97.0	2.01
Sargent	10	87,100	8,710	6,444	74.0	1.77
Walsh	10	77,900	7,790	5,627	72.2	1.59
Ransom	10	76,200	7,620	2,841	37.3	1.55
La Moure	10	41,000	4,100	3,388	82.6	0.83
Griggs	10	37,000	3,700	2,678	72.4	0.75
Wells	9	31,000	3,444	2,385	69.2	0.63
Nelson	9	25,500	2,833	1,729	61.0	0.52
Dickey	9	24,400	2,711	1,682	62.0	0.50
Stutsman	9	20,800	2,311	1,919	83.0	0.42
Ramsey	8	12,900	1,613	1,255	77.8	0.26
Towner	8	11,300	1,413	1,326	93.9	0.23

County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Foster	8	5,300	663	578	87.2	0.11
Benson	4	4,400	1,100	271	24.6	0.09
Eddy	8	4,300	538	207	38.4	0.09
Sheridan	6	3,400	567	532	93.8	0.07
Bottineau	4	2,700	675	320	47.4	0.05
Kidder	5	2,000	400	274	68.5	0.04
Hettinger	2	1,800	900	283	31.4	0.04
Cavalier	6	1,800	300	200	66.7	0.04
Burleigh	2	1,000	500	0	0.0	0.02
Sioux	2	900	450	71	15.7	0.02
Logan	3	600	200	100	50.0	0.01
Ward	2	600	300	0	0.0	0.01
Pierce	2	600	300	141	47.1	0.01
Mountrail	2	600	300	141	47.1	0.01
Burke	2	600	300	283	94.3	0.01
Adams	2	400	200	0	0.0	0.01
Emmons	2	300	150	71	47.1	0.01
Rolette	1	200	200	.	.	0.00

County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Mcintosh	1	100	100	.	.	0.00
Morton	1	100	100	.	.	0.00

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Figure 14: North Dakota Counties Harvested Acreage, 1990 to 1999



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Table 13: North Dakota Counties Harvested Acreage, Descriptive Statistics for 1990 to 1999

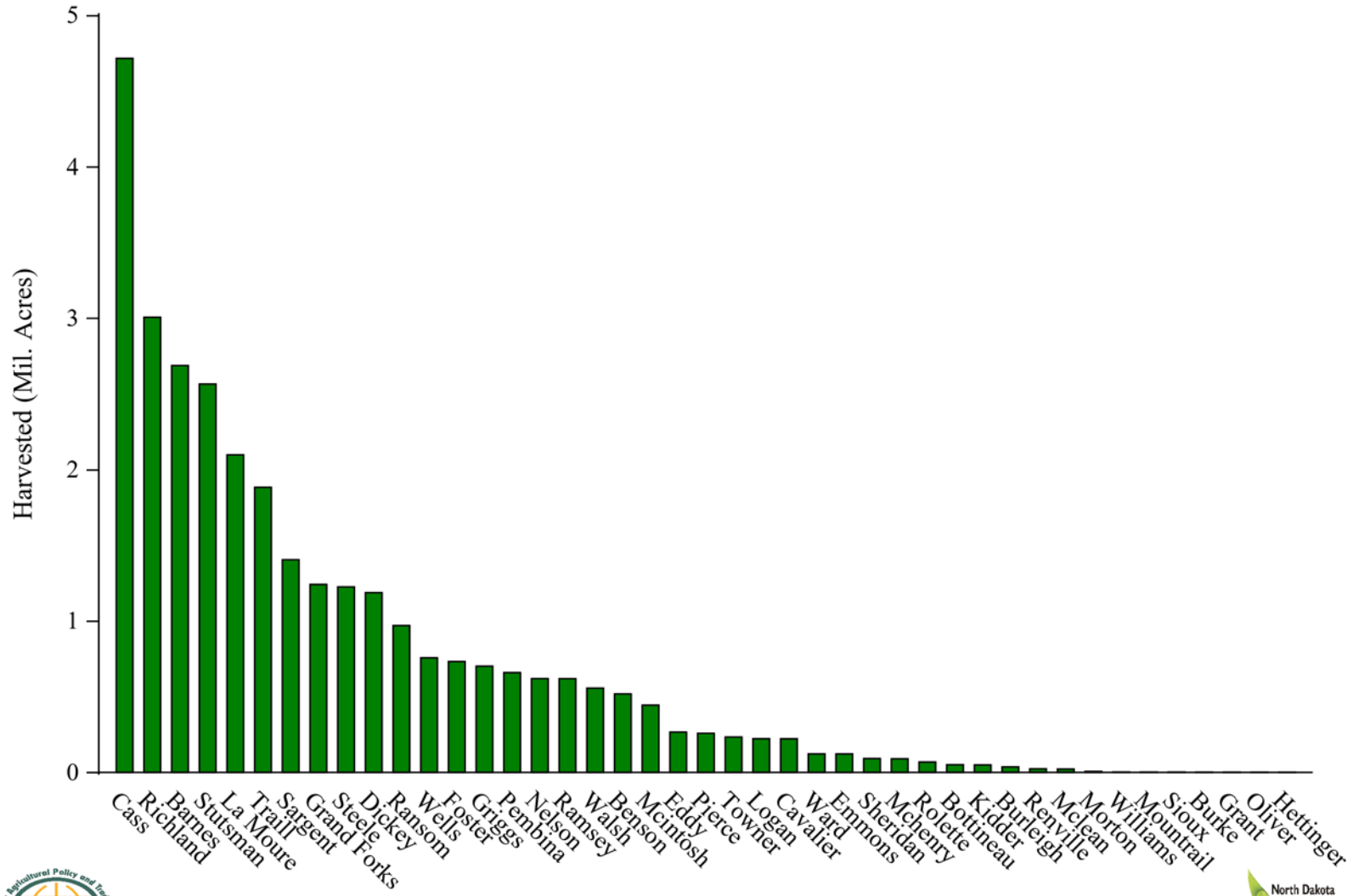
County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Cass	10	2,533,300	253,330	75,676	29.9	30.2
Richland	10	2,291,800	229,180	39,663	17.3	27.3
Traill	10	818,300	81,830	37,562	45.9	9.75
Sargent	10	626,400	62,640	29,302	46.8	7.46
Grand Forks	10	449,400	44,940	23,391	52.1	5.35
Barnes	10	310,600	31,060	30,680	98.8	3.70
Steele	10	277,000	27,700	18,203	65.7	3.30
Ransom	10	219,800	21,980	14,102	64.2	2.62
La Moure	10	167,300	16,730	14,746	88.1	1.99
Pembina	10	136,500	13,650	18,061	132	1.63
Dickey	10	111,700	11,170	9,703	86.9	1.33
Stutsman	10	90,100	9,010	13,192	146	1.07
Walsh	10	78,000	7,800	9,504	122	0.93
Griggs	10	54,900	5,490	5,959	109	0.65
Nelson	10	53,000	5,300	6,079	115	0.63
Foster	10	29,900	2,990	4,008	134	0.36
Ramsey	7	18,100	2,586	3,800	147	0.22
Mcintosh	7	14,100	2,014	2,014	100	0.17

County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Benson	10	13,600	1,360	2,046	150	0.16
Cavalier	8	12,700	1,588	1,766	111	0.15
Wells	9	12,200	1,356	1,726	127	0.15
Emmons	9	11,400	1,267	1,639	129	0.14
Kidder	7	10,400	1,486	1,260	84.8	0.12
Towner	8	10,400	1,300	1,860	143	0.12
Eddy	8	7,400	925	645	69.8	0.09
Burleigh	6	7,300	1,217	1,356	111	0.09
Bottineau	7	5,700	814	581	71.4	0.07
Logan	4	4,600	1,150	995	86.5	0.05
Pierce	3	4,200	1,400	1,253	89.5	0.05
Sioux	8	3,600	450	407	90.5	0.04
McLean	7	3,400	486	426	87.7	0.04
Hettinger	4	1,700	425	171	40.2	0.02
Sheridan	4	1,600	400	408	102	0.02
Rolette	1	1,500	1,500	.	.	0.02
Ward	2	1,000	500	283	56.6	0.01
Morton	1	800	800	.	.	0.01

County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Grant	2	600	300	283	94.3	0.01
Mountrail	2	200	100	0	0.0	0.00
Golden Valley	1	100	100	.	.	0.00
Bowman	1	100	100	.	.	0.00
Burke	1	100	100	.	.	0.00
Renville	1	100	100	.	.	0.00
Divide	1	100	100	.	.	0.00
Mercer	1	100	100	.	.	0.00

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Figure 15: North Dakota Counties Harvested Acreage, 2000 to 2009



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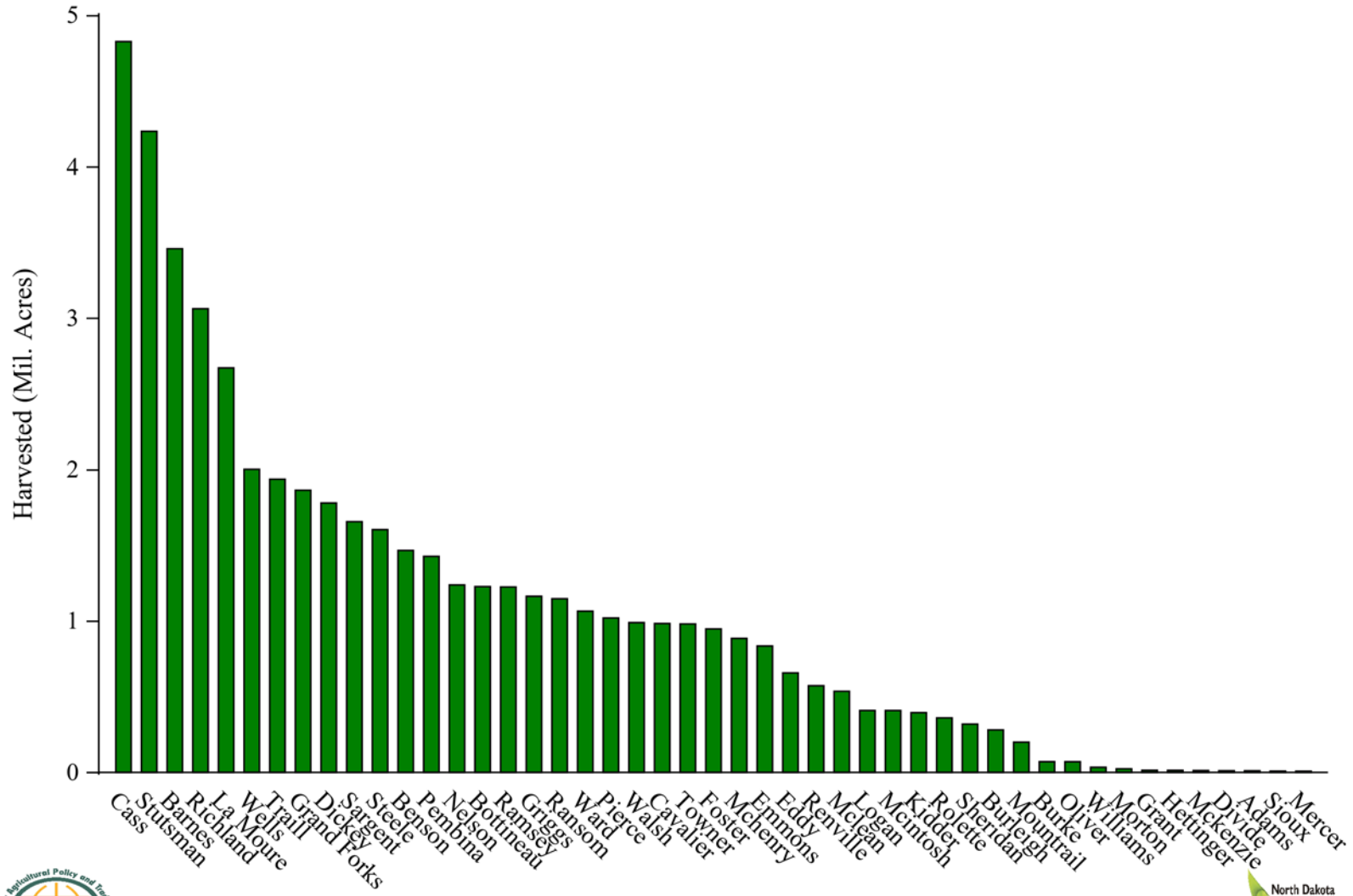
Table 14: North Dakota Counties Harvested Acreage, Descriptive Statistics for 2000 to 2009

County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Cass	10	4,717,000	471,700	42,309	9.0	15.5
Richland	10	3,006,500	300,650	16,504	5.5	9.86
Barnes	10	2,687,800	268,780	70,066	26.1	8.82
Stutsman	10	2,565,600	256,560	104,452	40.7	8.41
La Moure	10	2,097,800	209,780	55,320	26.4	6.88
Traill	10	1,883,300	188,330	25,381	13.5	6.18
Sargent	10	1,404,800	140,480	14,293	10.2	4.61
Grand Forks	10	1,241,500	124,150	35,779	28.8	4.07
Steele	10	1,225,300	122,530	29,196	23.8	4.02
Dickey	10	1,187,300	118,730	27,542	23.2	3.89
Ransom	10	970,100	97,010	15,781	16.3	3.18
Wells	9	756,700	84,078	44,116	52.5	2.48
Foster	10	732,300	73,230	37,471	51.2	2.40
Griggs	10	701,600	70,160	29,268	41.7	2.30
Pembina	10	659,200	65,920	23,950	36.3	2.16
Nelson	10	619,600	61,960	28,865	46.6	2.03
Ramsey	10	619,200	61,920	29,760	48.1	2.03
Walsh	10	556,500	55,650	16,125	29.0	1.83

County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Benson	10	518,600	51,860	32,611	62.9	1.70
Mcintosh	10	444,000	44,400	16,734	37.7	1.46
Eddy	10	266,100	26,610	16,692	62.7	0.87
Pierce	9	258,200	28,689	16,133	56.2	0.85
Towner	10	233,600	23,360	11,796	50.5	0.77
Logan	10	222,500	22,250	12,758	57.3	0.73
Cavalier	10	221,900	22,190	11,329	51.1	0.73
Ward	9	122,100	13,567	7,775	57.3	0.40
Emmons	9	122,000	13,556	3,217	23.7	0.40
Sheridan	7	91,300	13,043	8,035	61.6	0.30
Mchenry	9	89,700	9,967	5,287	53.0	0.29
Rolette	10	68,400	6,840	4,362	63.8	0.22
Bottineau	10	50,600	5,060	2,349	46.4	0.17
Kidder	8	49,300	6,163	2,961	48.1	0.16
Burleigh	8	36,100	4,513	1,124	24.9	0.12
Renville	8	23,500	2,938	1,265	43.1	0.08
Mclean	5	22,100	4,420	2,911	65.9	0.07
Morton	4	6,600	1,650	370	22.4	0.02

County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Williams	1	2,700	2,700	.	.	0.01
Sioux	2	2,400	1,200	424	35.4	0.01
Mountrail	2	2,400	1,200	141	11.8	0.01
Burke	2	1,200	600	283	47.1	0.00
Grant	2	1,000	500	0	0.0	0.00
Oliver	1	700	700	.	.	0.00
Hettinger	1	500	500	.	.	0.00

Figure 16: North Dakota Counties Harvested Acreage, 2010 to 2019



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Table 15: North Dakota Counties Harvested Acreage, Descriptive Statistics for 2010 to 2019

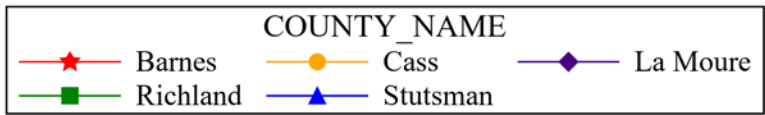
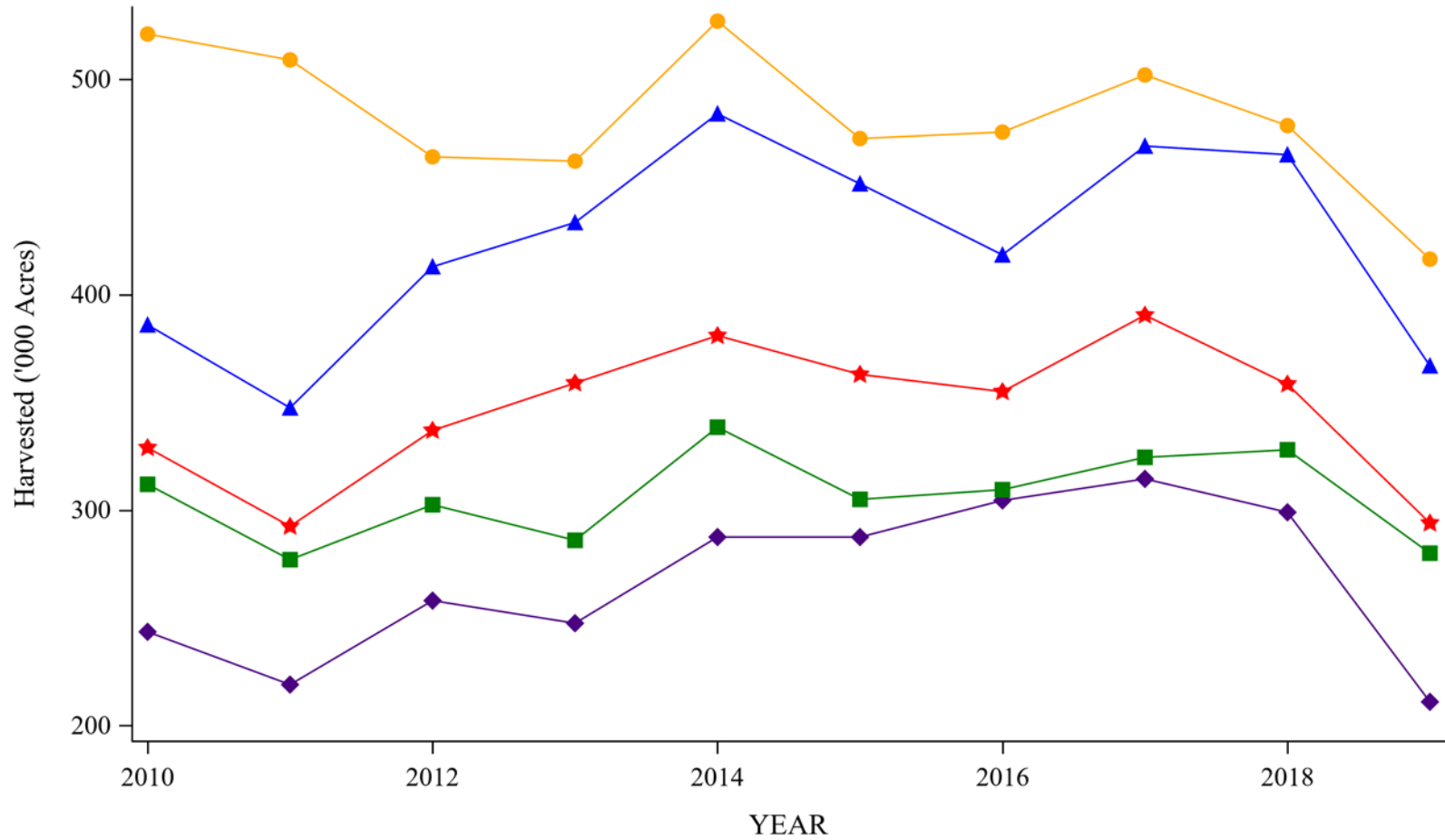
County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Cass	10	4,828,000	482,800	33,045	6.8	9.63
Stutsman	10	4,235,000	423,500	45,761	10.8	8.45
Barnes	10	3,459,500	345,950	33,060	9.6	6.90
Richland	10	3,063,000	306,300	20,710	6.8	6.11
La Moure	10	2,672,000	267,200	36,485	13.7	5.33
Wells	10	2,002,300	200,230	26,974	13.5	4.00
Traill	10	1,936,600	193,660	17,797	9.2	3.86
Grand Forks	10	1,863,600	186,360	33,665	18.1	3.72
Dickey	10	1,779,600	177,960	30,700	17.3	3.55
Sargent	10	1,656,100	165,610	20,141	12.2	3.30
Steele	10	1,603,700	160,370	12,763	8.0	3.20
Benson	9	1,466,300	162,922	28,705	17.6	2.93
Pembina	10	1,427,000	142,700	33,787	23.7	2.85
Nelson	10	1,238,300	123,830	21,606	17.4	2.47
Bottineau	9	1,227,200	136,356	99,832	73.2	2.45
Ramsey	9	1,224,800	136,089	29,155	21.4	2.44
Griggs	10	1,163,200	116,320	11,815	10.2	2.32
Ransom	9	1,147,100	127,456	20,668	16.2	2.29

County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Ward	8	1,064,900	133,113	70,949	53.3	2.13
Pierce	10	1,020,100	102,010	25,081	24.6	2.04
Walsh	9	989,500	109,944	28,539	26.0	1.97
Cavalier	10	983,200	98,320	48,879	49.7	1.96
Towner	10	980,600	98,060	39,623	40.4	1.96
Foster	7	947,600	135,371	19,160	14.2	1.89
Mchenry	9	885,100	98,344	57,010	58.0	1.77
Emmons	10	834,900	83,490	39,089	46.8	1.67
Eddy	9	657,100	73,011	13,121	18.0	1.31
Renville	8	572,400	71,550	48,764	68.2	1.14
Mclean	5	535,600	107,120	47,761	44.6	1.07
Logan	5	408,900	81,780	22,580	27.6	0.82
Mcintosh	4	408,700	102,175	26,032	25.5	0.82
Kidder	7	394,400	56,343	23,798	42.2	0.79
Rolette	9	360,100	40,011	20,529	51.3	0.72
Sheridan	5	319,000	63,800	29,546	46.3	0.64
Burleigh	5	280,600	56,120	47,645	84.9	0.56
Mountrail	4	199,400	49,850	25,595	51.3	0.40

County	Harvested (Acres)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Burke	2	70,600	35,300	8,061	22.8	0.14
Oliver	4	70,300	17,575	6,631	37.7	0.14
Williams	4	33,580	8,395	5,007	59.6	0.07
Morton	2	23,480	11,740	7,014	59.7	0.05
Grant	3	13,880	4,627	6,395	138	0.03
Hettinger	2	13,500	6,750	2,333	34.6	0.03
Mckenzie	4	12,040	3,010	1,537	51.1	0.02
Divide	1	10,800	10,800	.	.	0.02
Adams	2	10,600	5,300	1,556	29.4	0.02
Sioux	1	8,500	8,500	.	.	0.02
Mercer	1	8,000	8,000	.	.	0.02

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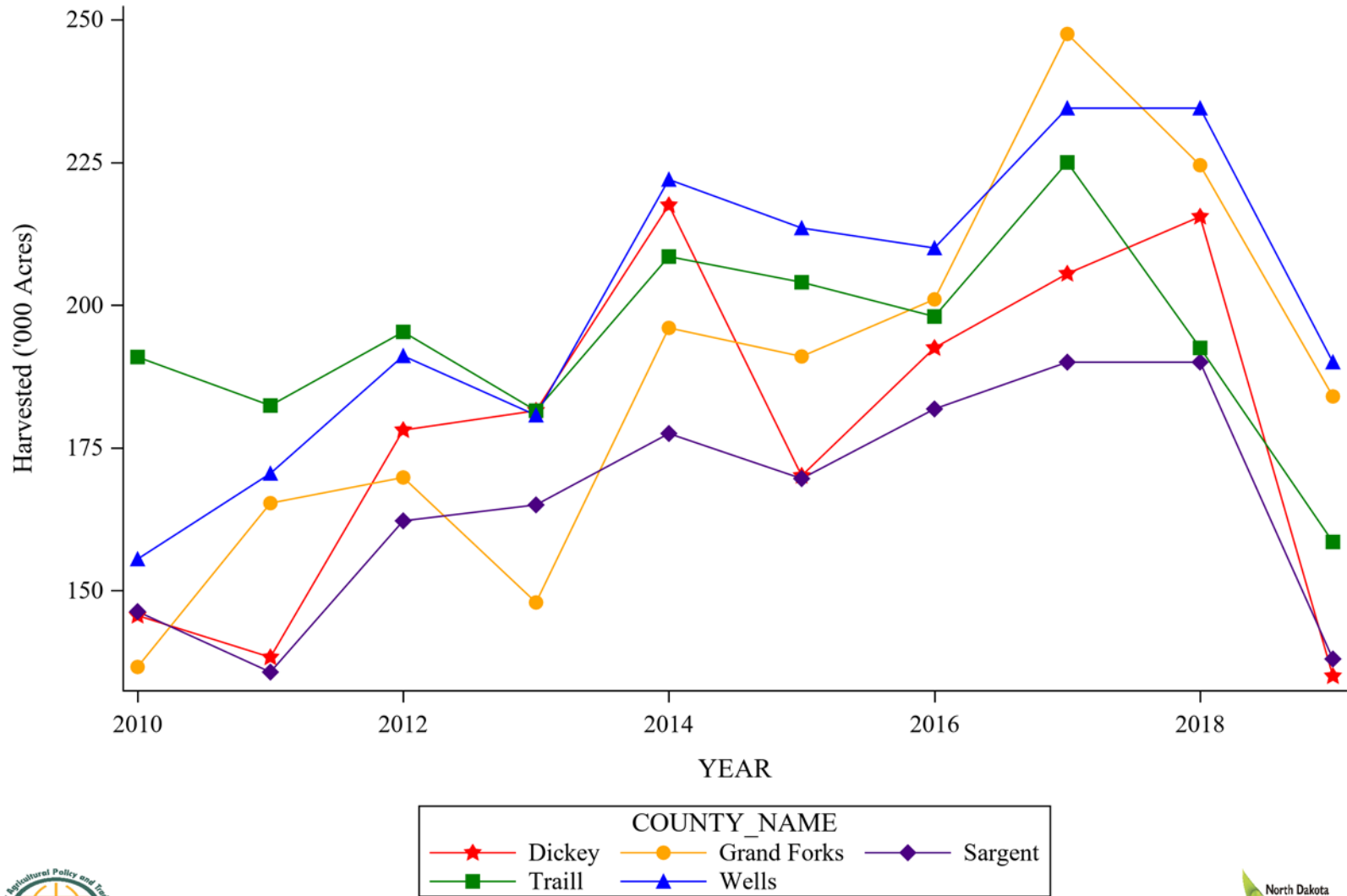
Figure 17: Top 5 North Dakota Counties Harvested Acreage, Annual Trends



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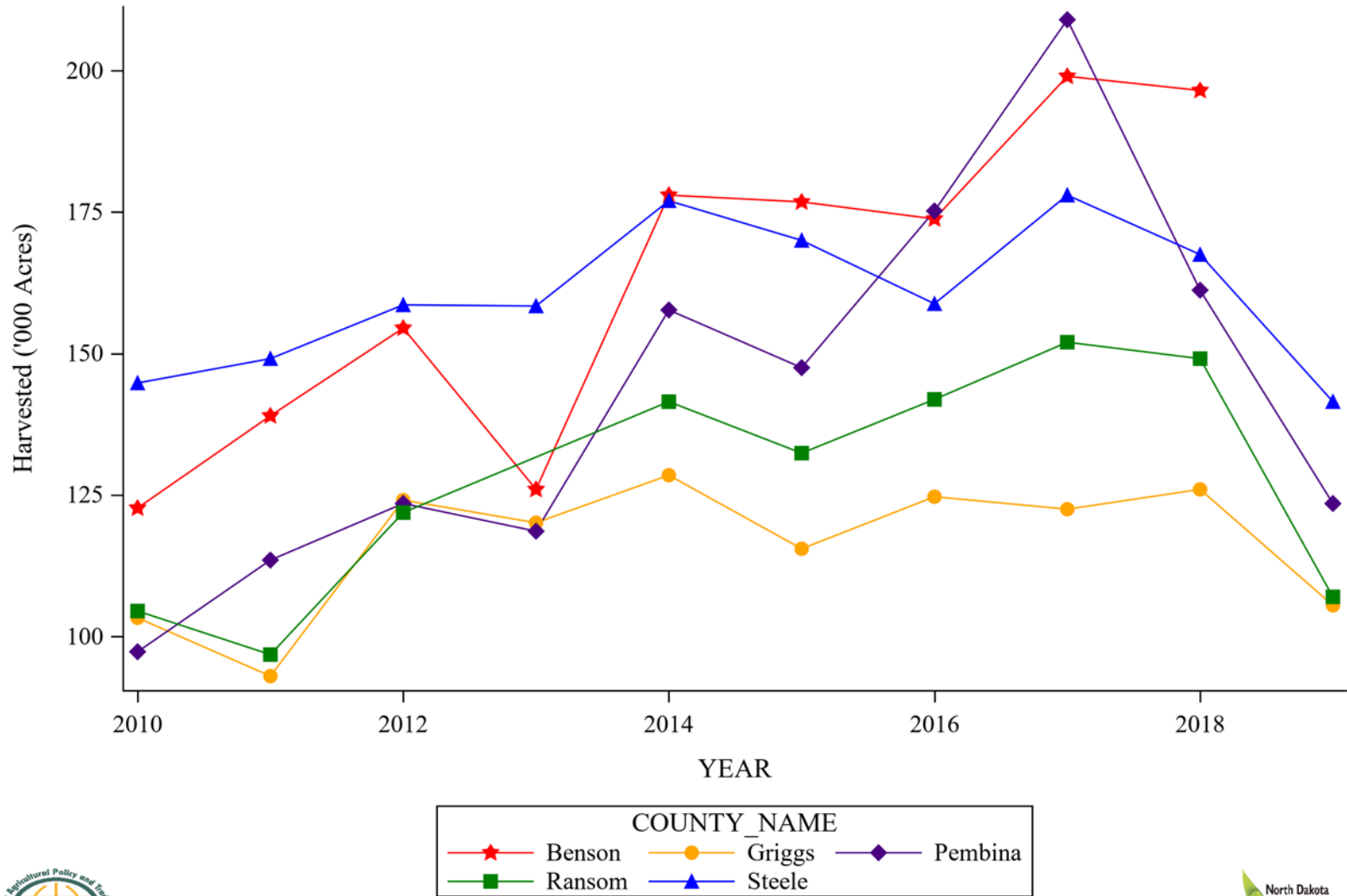
Figure 18: Top 6 to 10 North Dakota Counties Harvested Acreage, Annual Trends



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Figure 19: Top 11 to 15 North Dakota Counties Harvested Acreage, Annual Trends



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Table 16: Top 15 North Dakota Counties Harvested Acreage, Annual Trends

County	Harvested (Acres)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cass	521,000	509,000	464,000	462,000	527,000	472,500	475,500	502,000	478,500	416,500
Stutsman	386,000	347,500	413,000	433,500	484,000	451,500	418,500	469,000	465,000	367,000
Barnes	329,000	292,500	337,000	359,000	381,000	363,000	355,000	390,500	358,500	294,000
Richland	312,000	277,000	302,500	286,000	338,500	305,000	309,500	324,500	328,000	280,000
La Moure	243,500	219,000	258,000	247,500	287,500	287,500	304,500	314,500	299,000	211,000
Traill	190,900	182,400	195,300	181,500	208,500	204,000	198,000	225,000	192,500	158,500
Dickey	145,600	138,300	178,100	181,500	217,500	170,100	192,500	205,500	215,500	135,000
Wells	155,500	170,500	191,100	180,700	222,000	213,500	210,000	234,500	234,500	190,000
Sargent	146,300	135,700	162,200	165,000	177,500	169,600	181,800	190,000	190,000	138,000
Grand Forks	136,600	165,300	169,800	147,900	196,000	191,000	201,000	247,500	224,500	184,000
Steele	144,800	149,100	158,600	158,400	177,000	170,000	158,800	178,000	167,500	141,500
Ransom	104,500	96,800	121,900	.	141,500	132,400	141,900	152,000	149,100	107,000
Pembina	97,300	113,500	123,500	118,600	157,700	147,500	175,200	209,000	161,200	123,500
Benson	122,700	139,000	154,500	126,000	178,000	176,800	173,800	199,000	196,500	.
Griggs	103,300	93,000	124,100	120,100	128,500	115,500	124,700	122,500	126,000	105,500
Ramsey	97,500	114,400	139,600	95,600	139,500	137,600	153,800	179,600	167,200	.
Bottineau	17,300	7,400	51,700	.	104,000	136,500	189,800	281,500	258,000	181,000
Nelson	88,900	95,900	107,200	118,900	140,000	133,600	142,200	155,600	137,000	119,000
Walsh	71,000	84,200	100,600	81,600	122,500	109,600	128,300	159,500	132,200	.
Pierce	63,700	64,300	91,100	80,700	122,000	115,000	116,800	129,400	126,100	111,000
Ward	21,800	.	53,700	.	103,500	127,700	167,200	215,000	217,500	158,500
Foster	116,400	109,000	132,000	.	.	158,500	153,200	150,500	.	128,000

County	Harvested (Acres)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Towner	55,500	46,800	72,300	48,900	99,500	109,100	129,800	150,500	142,200	126,000
Cavalier	45,200	28,900	54,000	67,500	104,800	118,600	130,700	185,300	140,700	107,500
Emmons	33,700	34,800	50,300	60,700	90,800	97,200	87,300	144,300	139,800	96,000
Mchenry	20,800	17,600	45,900	.	97,500	115,000	129,300	160,500	164,000	134,500
Eddy	51,400	58,400	66,500	82,000	85,500	79,500	.	82,500	87,300	64,000
McLean	.	.	.	45,300	80,200	.	105,300	.	167,800	137,000
Renville	3,800	.	16,500	.	38,800	65,800	100,200	143,500	108,200	95,600
McIntosh	83,900	77,700	.	.	.	.	113,900	133,200	.	.
Kidder	24,300	26,300	.	52,500	66,500	61,500	.	77,000	86,300	.
Logan	58,200	60,500	.	94,000	.	.	84,900	111,300	.	.
Rolette	18,000	13,700	30,800	17,100	49,500	50,700	50,300	68,600	61,400	.
Sheridan	28,400	35,300	.	.	.	80,500	83,300	91,500	.	.
Burleigh	14,800	18,100	33,300	.	.	.	.	97,500	116,900	.
Mountrail	.	.	.	.	.	14,700	.	48,700	73,900	62,100
Oliver	.	.	.	.	10,700	.	13,300	.	24,600	21,700
Burke	.	.	.	.	.	.	.	.	41,000	29,600
Williams	.	.	2,380	.	14,600	.	7,800	8,800	.	.
Morton	.	.	6,780	.	.	.	16,700	.	.	.
McKenzie	.	.	.	1,140	.	.	.	2,500	3,700	4,700
Grant	1,280	600	.	.	.	.	.	.	.	12,000
Sioux	.	.	.	.	.	.	.	.	.	8,500
Hettinger	.	.	.	.	.	.	.	5,100	.	8,400
Adams	.	.	.	.	.	.	.	4,200	.	6,400

County	Harvested (Acres)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mercer	8,000	.	.	.
Divide	10,800

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Table 17: Top 15 North Dakota Counties Share based on Harvested Acreage, Annual Trends

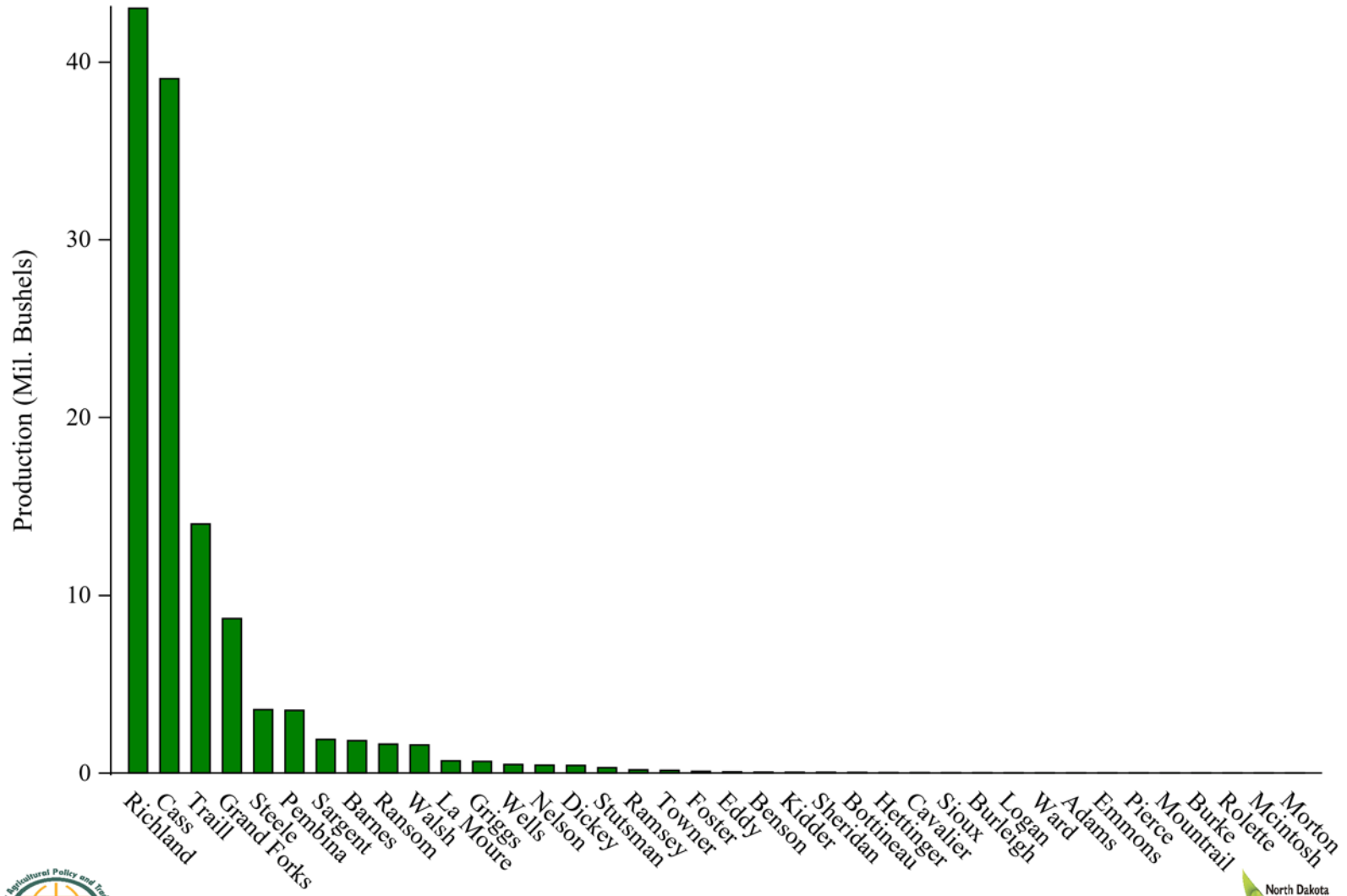
County	Share(percentages)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cass	12.85	12.98	10.53	11.51	9.94	8.95	8.29	7.44	7.74	9.33
Stutsman	9.52	8.86	9.37	10.80	9.13	8.55	7.30	6.95	7.52	8.22
Barnes	8.11	7.46	7.64	8.94	7.18	6.87	6.19	5.79	5.80	6.59
Richland	7.69	7.06	6.86	7.13	6.38	5.78	5.40	4.81	5.31	6.27
La Moure	6.01	5.58	5.85	6.17	5.42	5.44	5.31	4.66	4.84	4.73
Traill	4.71	4.65	4.43	4.52	3.93	3.86	3.45	3.33	3.11	3.55
Dickey	3.59	3.53	4.04	4.52	4.10	3.22	3.36	3.04	3.49	3.02
Wells	3.83	4.35	4.34	4.50	4.19	4.04	3.66	3.47	3.79	4.26
Sargent	3.61	3.46	3.68	4.11	3.35	3.21	3.17	2.81	3.07	3.09
Grand Forks	3.37	4.21	3.85	3.68	3.70	3.62	3.51	3.67	3.63	4.12
Steele	3.57	3.80	3.60	3.95	3.34	3.22	2.77	2.64	2.71	3.17
Ransom	2.58	2.47	2.77	.	2.67	2.51	2.48	2.25	2.41	2.40
Pembina	2.40	2.89	2.80	2.95	2.97	2.79	3.06	3.10	2.61	2.77
Benson	3.03	3.54	3.50	3.14	3.36	3.35	3.03	2.95	3.18	.
Griggs	2.55	2.37	2.82	2.99	2.42	2.19	2.18	1.81	2.04	2.36
Ramsey	2.40	2.92	3.17	2.38	2.63	2.61	2.68	2.66	2.70	.
Bottineau	0.43	0.19	1.17	.	1.96	2.58	3.31	4.17	4.17	4.06
Nelson	2.19	2.44	2.43	2.96	2.64	2.53	2.48	2.31	2.22	2.67
Walsh	1.75	2.15	2.28	2.03	2.31	2.08	2.24	2.36	2.14	.
Pierce	1.57	1.64	2.07	2.01	2.30	2.18	2.04	1.92	2.04	2.49
Ward	0.54	.	1.22	.	1.95	2.42	2.92	3.19	3.52	3.55
Foster	2.87	2.78	2.99	.	.	3.00	2.67	2.23	.	2.87

County	Share(percentages)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Towner	1.37	1.19	1.64	1.22	1.88	2.07	2.26	2.23	2.30	2.82
Cavalier	1.11	0.74	1.22	1.68	1.98	2.25	2.28	2.75	2.28	2.41
Emmons	0.83	0.89	1.14	1.51	1.71	1.84	1.52	2.14	2.26	2.15
Mchenry	0.51	0.45	1.04	.	1.84	2.18	2.26	2.38	2.65	3.01
Eddy	1.27	1.49	1.51	2.04	1.61	1.51	.	1.22	1.41	1.43
Mclean	.	.	.	1.13	1.51	.	1.84	.	2.71	3.07
Renville	0.09	.	0.37	.	0.73	1.25	1.75	2.13	1.75	2.14
Mcintosh	2.07	1.98	.	.	.	.	1.99	1.97	.	.
Kidder	0.60	0.67	.	1.31	1.25	1.16	.	1.14	1.40	.
Logan	1.44	1.54	.	2.34	.	.	1.48	1.65	.	.
Rolette	0.44	0.35	0.70	0.43	0.93	0.96	0.88	1.02	0.99	.
Sheridan	0.70	0.90	.	.	.	1.52	1.45	1.36	.	.
Burleigh	0.36	0.46	0.76	.	.	.	.	1.44	1.89	.
Mountrail	.	.	.	.	.	0.28	.	0.72	1.20	1.39
Oliver	.	.	.	.	0.20	.	0.23	.	0.40	0.49
Burke	.	.	.	.	.	.	.	.	0.66	0.66
Williams	.	.	0.05	.	0.28	.	0.14	0.13	.	.
Morton	.	.	0.15	.	.	.	0.29	.	.	.
Mckenzie	.	.	.	0.03	.	.	.	0.04	0.06	0.11
Grant	0.03	0.02	.	.	.	.	.	.	.	0.27
Sioux	.	.	.	.	.	.	.	.	.	0.19
Hettinger	.	.	.	.	.	.	.	0.08	.	0.19
Adams	.	.	.	.	.	.	.	0.06	.	0.14

	Share(percentages)									
County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mercer	0.14	.	.	.
Divide	0.20

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Figure 20: North Dakota Counties Production, 1980 to 1989



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Table 18: North Dakota Counties Production, Descriptive Statistics for 1980 to 1989

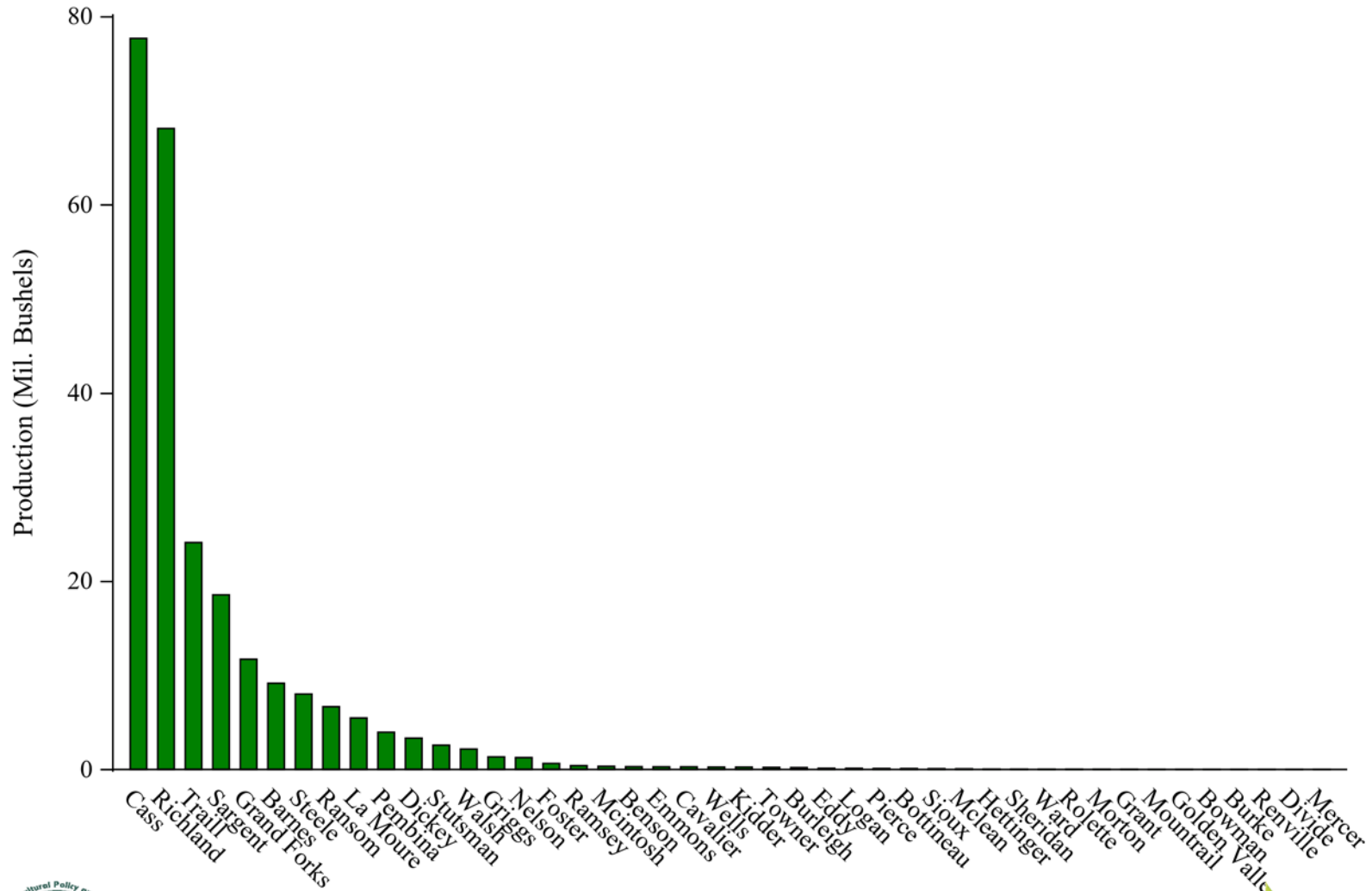
County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Richland	10	42,999,600	4,299,960	1,745,667	40.6	35.1
Cass	10	39,043,800	3,904,380	1,447,733	37.1	31.9
Traill	10	14,000,300	1,400,030	620,435	44.3	11.4
Grand Forks	10	8,684,200	868,420	496,690	57.2	7.09
Steele	10	3,560,200	356,020	188,742	53.0	2.91
Pembina	10	3,520,500	352,050	246,159	69.9	2.88
Sargent	10	1,887,400	188,740	174,457	92.4	1.54
Barnes	10	1,815,800	181,580	162,754	89.6	1.48
Ransom	10	1,621,100	162,110	60,703	37.4	1.32
Walsh	10	1,574,800	157,480	135,110	85.8	1.29
La Moure	10	682,300	68,230	53,585	78.5	0.56
Griggs	10	648,900	64,890	42,964	66.2	0.53
Wells	9	475,900	52,878	43,967	83.1	0.39
Nelson	9	438,400	48,711	30,405	62.4	0.36
Dickey	9	425,600	47,289	25,638	54.2	0.35
Stutsman	9	296,200	32,911	20,408	62.0	0.24
Ramsey	8	176,000	22,000	16,996	77.3	0.14
Towner	8	147,600	18,450	18,501	100	0.12

County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Foster	8	91,200	11,400	10,709	93.9	0.07
Eddy	8	64,000	8,000	3,217	40.2	0.05
Benson	4	46,100	11,525	5,261	45.7	0.04
Kidder	5	41,500	8,300	5,716	68.9	0.03
Sheridan	6	40,600	6,767	6,378	94.3	0.03
Bottineau	4	33,300	8,325	4,974	59.7	0.03
Hettinger	2	23,900	11,950	7,000	58.6	0.02
Cavalier	6	22,700	3,783	2,679	70.8	0.02
Sioux	2	17,200	8,600	1,980	23.0	0.01
Burleigh	2	14,500	7,250	354	4.9	0.01
Logan	3	7,900	2,633	1,986	75.4	0.01
Ward	2	5,700	2,850	636	22.3	0.00
Adams	2	4,600	2,300	424	18.4	0.00
Emmons	2	4,600	2,300	707	30.7	0.00
Pierce	2	4,300	2,150	919	42.8	0.00
Mountrail	2	3,400	1,700	990	58.2	0.00
Burke	2	3,200	1,600	1,273	79.5	0.00
Rolette	1	1,600	1,600	.	.	0.00

County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Mcintosh	1	1,300	1,300	.	.	0.00
Morton	1	500	500	.	.	0.00

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Figure 21: North Dakota Counties Production, 1990 to 1999



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Table 19: North Dakota Counties Production, Descriptive Statistics for 1990 to 1999

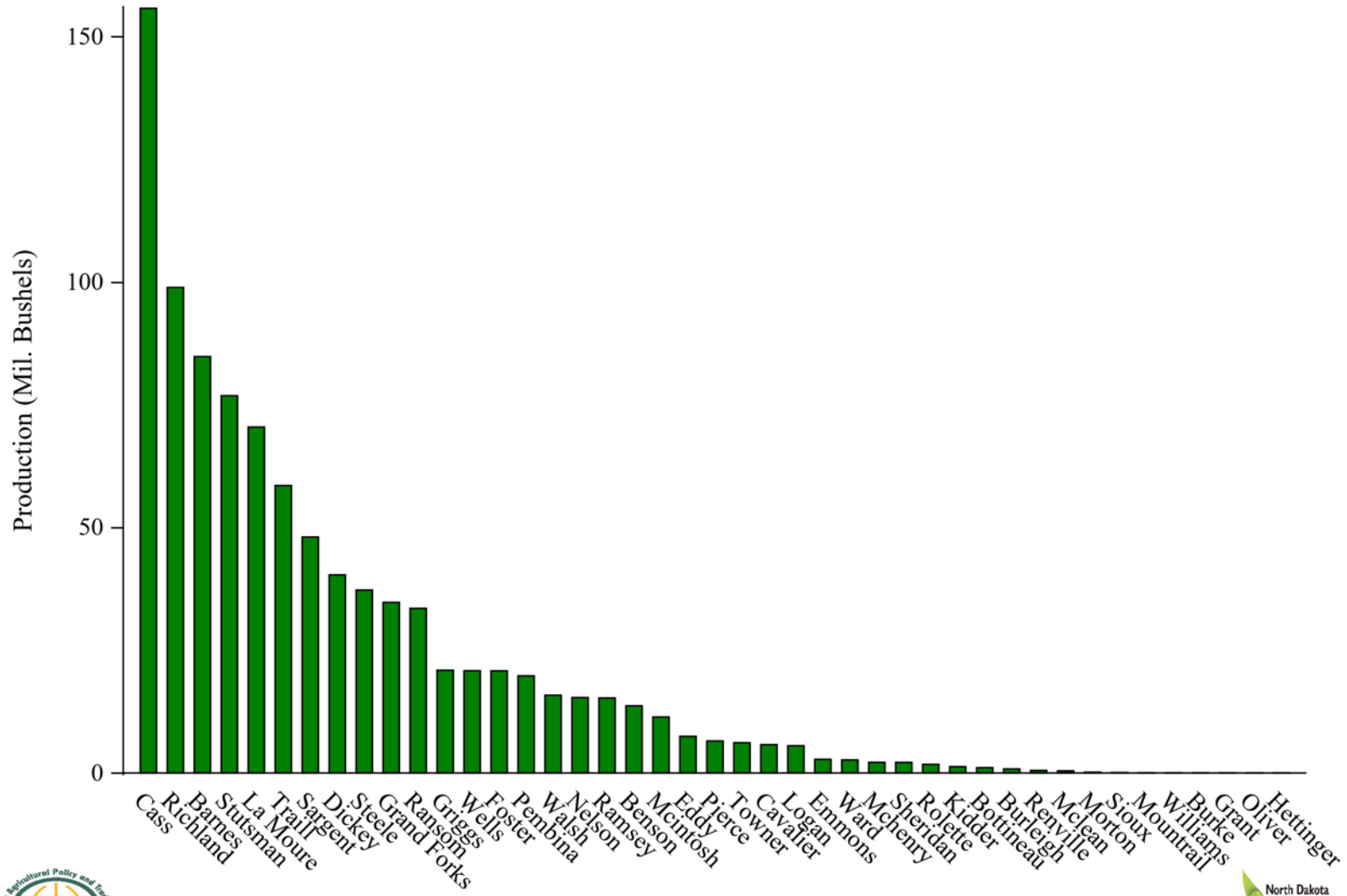
County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Cass	10	77,685,600	7,768,560	3,413,179	43.9	31.3
Richland	10	68,111,900	6,811,190	2,189,239	32.1	27.5
Traill	10	24,109,100	2,410,910	1,343,651	55.7	9.72
Sargent	10	18,553,000	1,855,300	1,153,064	62.1	7.48
Grand Forks	10	11,714,500	1,171,450	692,941	59.2	4.72
Barnes	10	9,157,400	915,740	1,031,802	113	3.69
Steele	10	8,010,400	801,040	623,362	77.8	3.23
Ransom	10	6,668,700	666,870	532,953	79.9	2.69
La Moure	10	5,468,800	546,880	566,620	104	2.21
Pembina	10	3,953,700	395,370	561,978	142	1.59
Dickey	10	3,326,400	332,640	356,570	107	1.34
Stutsman	10	2,580,500	258,050	419,142	162	1.04
Walsh	10	2,164,500	216,450	277,585	128	0.87
Griggs	10	1,334,700	133,470	163,280	122	0.54
Nelson	10	1,261,300	126,130	150,853	120	0.51
Foster	10	638,500	63,850	85,810	134	0.26
Ramsey	7	401,500	57,357	86,934	152	0.16
Mcintosh	7	329,100	47,014	47,373	101	0.13

County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Benson	10	294,300	29,430	53,092	180	0.12
Emmons	9	283,000	31,444	43,132	137	0.11
Cavalier	8	282,200	35,275	39,492	112	0.11
Wells	9	254,300	28,256	39,972	141	0.10
Kidder	7	252,300	36,043	30,992	86.0	0.10
Towner	8	222,000	27,750	43,152	156	0.09
Burleigh	6	198,400	33,067	41,554	126	0.08
Eddy	8	125,100	15,638	11,985	76.6	0.05
Logan	4	122,300	30,575	28,816	94.2	0.05
Pierce	3	101,800	33,933	29,510	87.0	0.04
Bottineau	7	95,200	13,600	7,938	58.4	0.04
Sioux	8	80,400	10,050	14,510	144	0.03
McLean	7	66,800	9,543	9,629	101	0.03
Hettinger	4	37,100	9,275	5,467	58.9	0.01
Sheridan	4	26,600	6,650	7,434	112	0.01
Ward	2	20,200	10,100	10,465	104	0.01
Rolette	1	18,000	18,000	.	.	0.01
Morton	1	15,500	15,500	.	.	0.01

County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Grant	2	11,200	5,600	6,223	111	0.00
Mountrail	2	3,000	1,500	707	47.1	0.00
Golden Valley	1	1,700	1,700	.	.	0.00
Bowman	1	1,600	1,600	.	.	0.00
Burke	1	1,300	1,300	.	.	0.00
Renville	1	900	900	.	.	0.00
Divide	1	800	800	.	.	0.00
Mercer	1	700	700	.	.	0.00

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Figure 22: North Dakota Counties Production, 2000 to 2009



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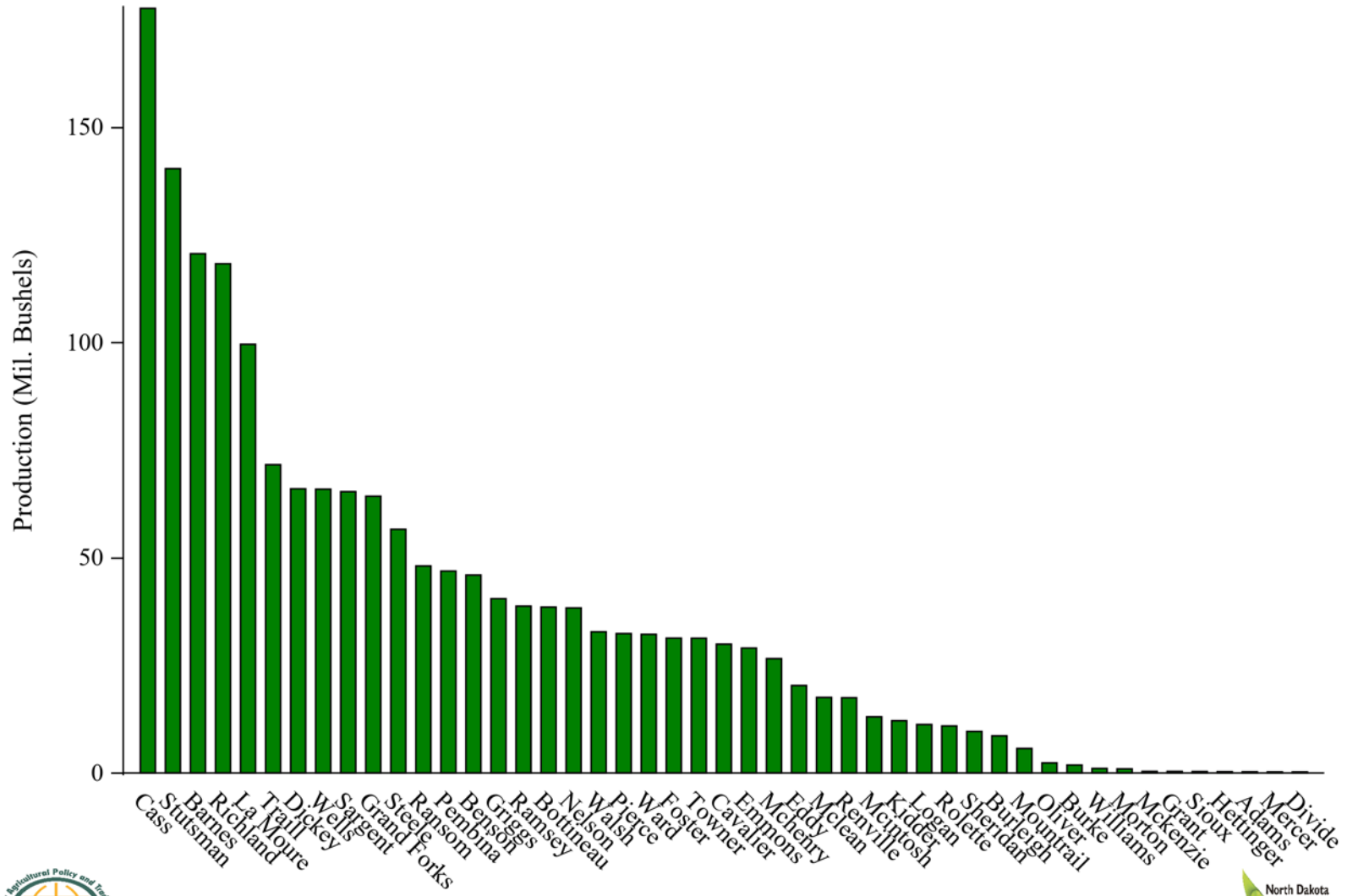
Table 20: North Dakota Counties Production, Descriptive Statistics for 2000 to 2009

County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Cass	10	155,755,000	15,575,500	2,045,563	13.1	16.6
Richland	10	98,897,000	9,889,700	1,045,438	10.6	10.5
Barnes	10	84,816,000	8,481,600	2,142,743	25.3	9.02
Stutsman	10	76,852,000	7,685,200	3,265,309	42.5	8.17
La Moure	10	70,461,000	7,046,100	1,974,358	28.0	7.49
Traill	10	58,541,000	5,854,100	861,512	14.7	6.22
Sargent	10	48,064,000	4,806,400	701,246	14.6	5.11
Dickey	10	40,346,000	4,034,600	1,010,430	25.0	4.29
Steele	10	37,247,000	3,724,700	800,586	21.5	3.96
Grand Forks	10	34,747,000	3,474,700	851,556	24.5	3.69
Ransom	10	33,526,000	3,352,600	582,658	17.4	3.56
Griggs	10	20,916,000	2,091,600	854,253	40.8	2.22
Wells	9	20,818,000	2,313,111	1,247,487	53.9	2.21
Foster	10	20,788,000	2,078,800	1,023,273	49.2	2.21
Pembina	10	19,782,000	1,978,200	837,699	42.3	2.10
Walsh	10	15,837,000	1,583,700	388,623	24.5	1.68
Nelson	10	15,354,000	1,535,400	636,096	41.4	1.63
Ramsey	10	15,269,000	1,526,900	737,193	48.3	1.62

County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Benson	10	13,677,000	1,367,700	896,628	65.6	1.45
Mcintosh	10	11,392,000	1,139,200	505,053	44.3	1.21
Eddy	10	7,444,000	744,400	485,291	65.2	0.79
Pierce	9	6,515,000	723,889	437,030	60.4	0.69
Towner	10	6,157,000	615,700	360,465	58.5	0.65
Cavalier	10	5,773,000	577,300	324,595	56.2	0.61
Logan	10	5,550,000	555,000	360,619	65.0	0.59
Emmons	9	2,771,000	307,889	102,507	33.3	0.29
Ward	9	2,656,000	295,111	159,130	53.9	0.28
Mchenry	9	2,156,000	239,556	111,339	46.5	0.23
Sheridan	7	2,146,000	306,571	173,028	56.4	0.23
Rolette	10	1,755,000	175,500	122,911	70.0	0.19
Kidder	8	1,274,000	159,250	92,486	58.1	0.14
Bottineau	10	1,070,000	107,000	44,212	41.3	0.11
Burleigh	8	813,000	101,625	37,909	37.3	0.09
Renville	8	513,000	64,125	28,623	44.6	0.05
Mclean	5	425,000	85,000	43,041	50.6	0.05
Morton	4	155,000	38,750	18,590	48.0	0.02

County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Sioux	2	92,000	46,000	19,799	43.0	0.01
Mountrail	2	39,000	19,500	2,121	10.9	0.00
Williams	1	36,000	36,000	.	.	0.00
Burke	2	26,000	13,000	7,071	54.4	0.00
Grant	2	20,000	10,000	2,828	28.3	0.00
Oliver	1	14,000	14,000	.	.	0.00
Hettinger	1	11,300	11,300	.	.	0.00

Figure 23: North Dakota Counties Production, 2010 to 2019



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Table 21: North Dakota Counties Production, Descriptive Statistics for 2010 to 2019

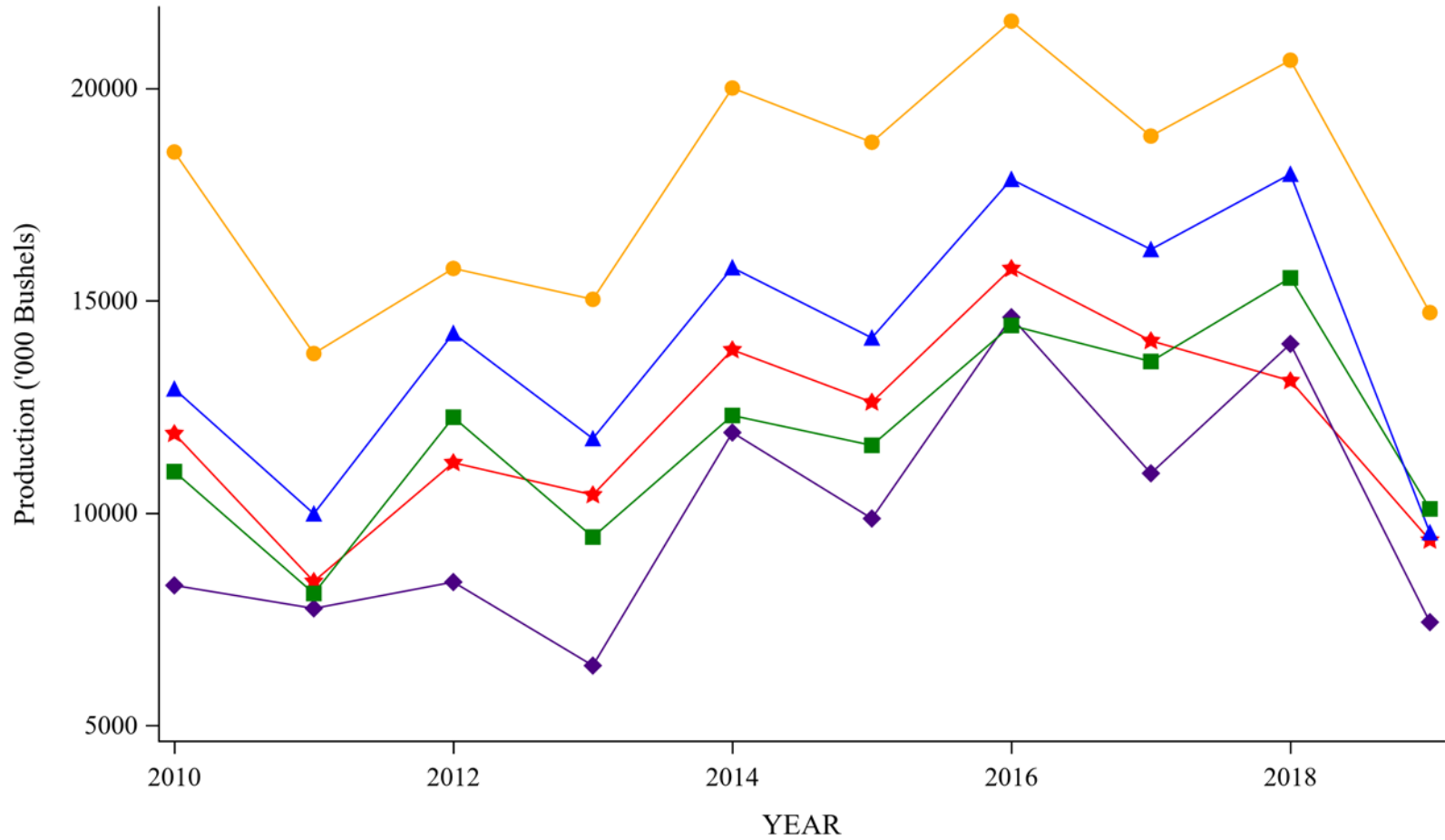
County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Cass	10	177,666,000	17,766,600	2,739,327	15.4	10.3
Stutsman	10	140,416,000	14,041,600	3,001,291	21.4	8.14
Barnes	10	120,652,000	12,065,200	2,271,857	18.8	7.00
Richland	10	118,319,000	11,831,900	2,290,901	19.4	6.86
La Moure	10	99,597,000	9,959,700	2,821,950	28.3	5.78
Traill	10	71,630,000	7,163,000	1,305,066	18.2	4.15
Dickey	10	66,025,000	6,602,500	1,907,535	28.9	3.83
Wells	10	65,940,000	6,594,000	1,229,628	18.6	3.82
Sargent	10	65,362,000	6,536,200	1,695,497	25.9	3.79
Grand Forks	10	64,297,000	6,429,700	1,457,079	22.7	3.73
Steele	10	56,620,000	5,662,000	1,009,722	17.8	3.28
Ransom	9	48,093,000	5,343,667	1,369,058	25.6	2.79
Pembina	10	46,911,000	4,691,100	1,451,069	30.9	2.72
Benson	9	45,985,000	5,109,444	1,102,254	21.6	2.67
Griggs	10	40,505,000	4,050,500	784,341	19.4	2.35
Ramsey	9	38,769,000	4,307,667	1,158,490	26.9	2.25
Bottineau	9	38,535,000	4,281,667	3,166,415	74.0	2.23
Nelson	10	38,350,000	3,835,000	831,251	21.7	2.22

County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Walsh	9	32,781,000	3,642,333	1,101,506	30.2	1.90
Pierce	10	32,385,000	3,238,500	799,505	24.7	1.88
Ward	8	32,214,000	4,026,750	1,914,277	47.5	1.87
Foster	7	31,326,000	4,475,143	988,985	22.1	1.82
Towner	10	31,307,000	3,130,700	1,267,165	40.5	1.82
Cavalier	10	29,926,000	2,992,600	1,662,098	55.5	1.74
Emmons	10	29,022,000	2,902,200	1,417,468	48.8	1.68
Mchenry	9	26,565,000	2,951,667	1,685,602	57.1	1.54
Eddy	9	20,320,000	2,257,778	456,097	20.2	1.18
Mclean	5	17,547,000	3,509,400	1,192,491	34.0	1.02
Renville	8	17,470,000	2,183,750	1,459,730	66.8	1.01
Mcintosh	4	13,051,000	3,262,750	1,040,708	31.9	0.76
Kidder	7	12,129,000	1,732,714	870,211	50.2	0.70
Logan	5	11,253,000	2,250,600	768,553	34.1	0.65
Rolette	9	10,925,000	1,213,889	631,069	52.0	0.63
Sheridan	5	9,634,000	1,926,800	940,022	48.8	0.56
Burleigh	5	8,614,000	1,722,800	1,511,549	87.7	0.50
Mountrail	4	5,690,000	1,422,500	695,849	48.9	0.33

County	Production (Bushels)					
	N	Sum	Mean	Risk	Coefficient of Variation	Share
Oliver	4	2,325,000	581,250	213,203	36.7	0.13
Burke	2	1,843,000	921,500	55,861	6.1	0.11
Williams	4	1,053,200	263,300	128,778	48.9	0.06
Morton	2	948,000	474,000	353,553	74.6	0.05
Mckenzie	4	376,500	94,125	62,370	66.3	0.02
Grant	3	375,000	125,000	171,764	137	0.02
Sioux	1	351,000	351,000	.	.	0.02
Hettinger	2	311,000	155,500	119,501	76.8	0.02
Adams	2	288,000	144,000	121,622	84.5	0.02
Mercer	1	265,000	265,000	.	.	0.02
Divide	1	260,000	260,000	.	.	0.02

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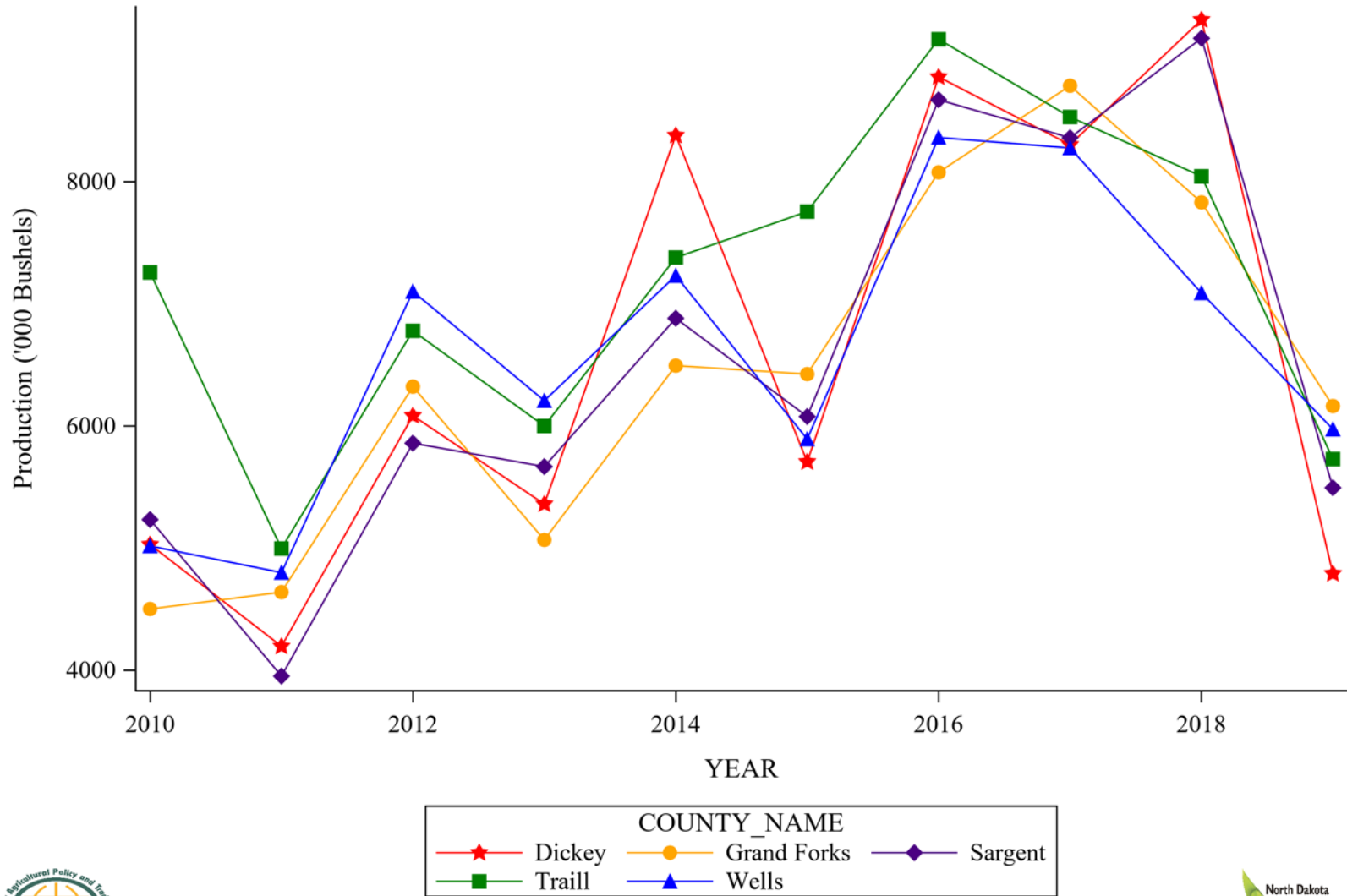
Figure 24: Top 5 North Dakota Counties Production, Annual Trends



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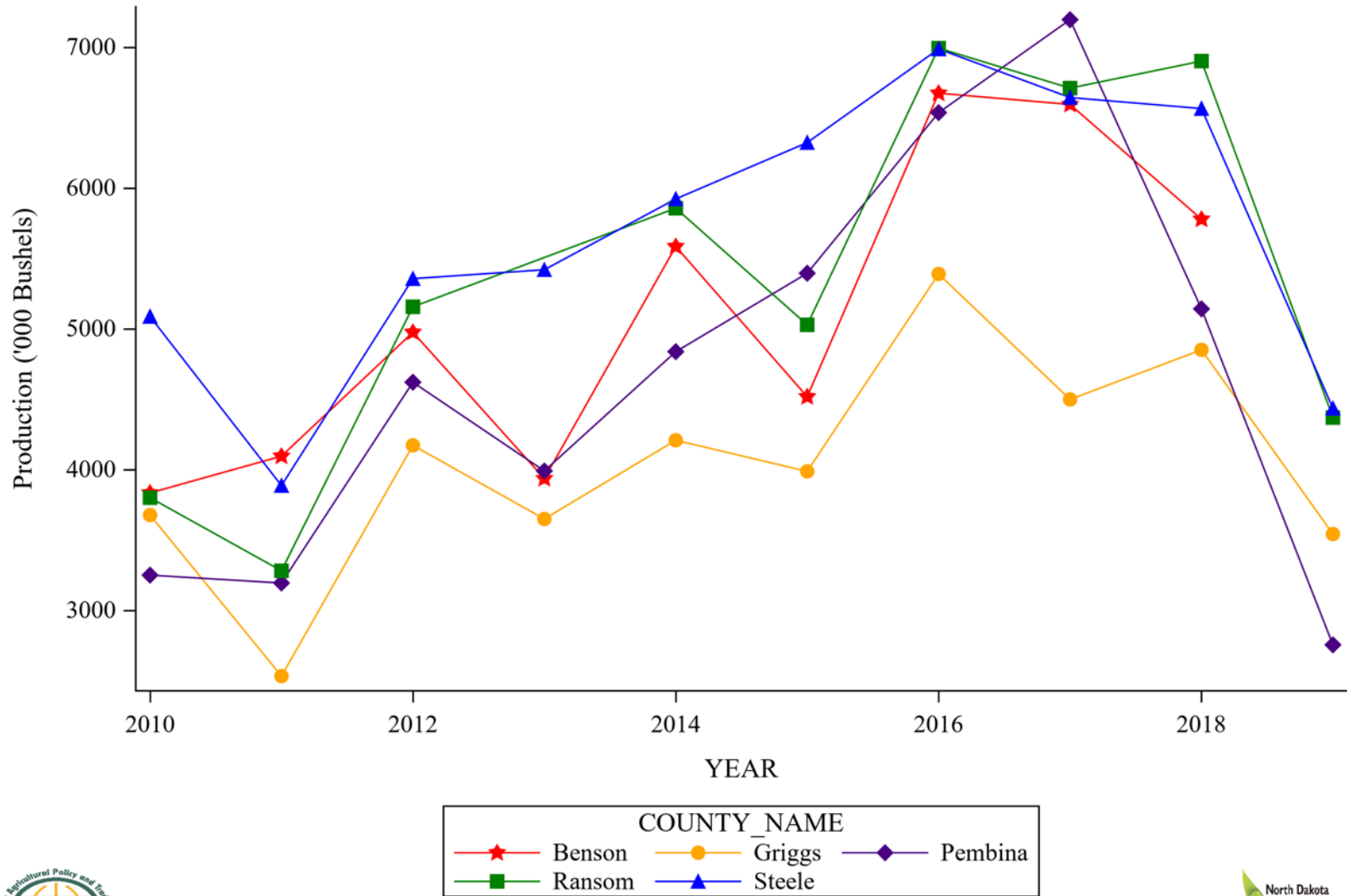
Figure 25: Top 6 to 10 North Dakota Counties Production, Annual Trends



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Figure 26: Top 11 to 15 North Dakota Counties Production, Annual Trends



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Table 22: Top 15 North Dakota Counties Production, Annual Trends

County	Production (Bushels)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cass	18,505,000	13,760,000	15,763,000	15,036,000	20,011,000	18,735,000	21,586,000	18,880,000	20,666,000	14,724,000
Stutsman	12,927,000	9,987,000	14,236,000	11,757,000	15,782,000	14,128,000	17,863,000	16,210,000	17,984,000	9,542,000
Barnes	11,874,000	8,394,000	11,189,000	10,432,000	13,846,000	12,614,000	15,760,000	14,060,000	13,118,000	9,365,000
Richland	10,980,000	8,110,000	12,259,000	9,438,000	12,300,000	11,598,000	14,420,000	13,572,000	15,540,000	10,102,000
La Moure	8,300,000	7,758,000	8,379,000	6,412,000	11,900,000	9,875,000	14,614,000	10,939,000	13,986,000	7,434,000
Traill	7,256,000	4,995,000	6,778,000	5,999,000	7,378,000	7,755,000	9,167,000	8,530,000	8,044,000	5,728,000
Dickey	5,028,000	4,194,000	6,083,000	5,359,000	8,379,000	5,705,000	8,858,000	8,303,000	9,327,000	4,789,000
Wells	5,016,000	4,798,000	7,101,000	6,206,000	7,230,000	5,891,000	8,362,000	8,276,000	7,088,000	5,972,000
Sargent	5,232,000	3,950,000	5,858,000	5,666,000	6,881,000	6,076,000	8,671,000	8,360,000	9,175,000	5,493,000
Grand Forks	4,500,000	4,638,000	6,321,000	5,066,000	6,493,000	6,424,000	8,077,000	8,786,000	7,830,000	6,162,000
Steele	5,087,000	3,886,000	5,356,000	5,419,000	5,922,000	6,322,000	6,987,000	6,642,000	6,564,000	4,435,000
Ransom	3,800,000	3,281,000	5,156,000	.	5,856,000	5,028,000	6,993,000	6,709,000	6,901,000	4,369,000
Pembina	3,250,000	3,194,000	4,620,000	3,990,000	4,837,000	5,394,000	6,535,000	7,195,000	5,141,000	2,755,000
Benson	3,834,000	4,095,000	4,975,000	3,936,000	5,584,000	4,517,000	6,673,000	6,593,000	5,778,000	.
Griggs	3,677,000	2,533,000	4,172,000	3,649,000	4,208,000	3,987,000	5,389,000	4,498,000	4,850,000	3,542,000
Ramsey	2,930,000	3,231,000	5,702,000	3,188,000	4,209,000	3,421,000	5,166,000	5,841,000	5,081,000	.
Bottineau	583,000	207,000	1,433,000	.	3,374,000	4,311,000	7,648,000	9,215,000	6,194,000	5,570,000
Nelson	2,781,000	2,702,000	3,492,000	3,564,000	3,933,000	3,752,000	4,919,000	5,243,000	4,438,000	3,526,000
Walsh	2,330,000	2,542,000	3,575,000	2,500,000	3,994,000	3,330,000	4,822,000	5,538,000	4,150,000	.
Pierce	2,165,000	2,080,000	2,771,000	2,797,000	3,828,000	3,096,000	4,226,000	4,392,000	3,611,000	3,419,000
Ward	674,000	.	1,750,000	.	3,879,000	4,125,000	6,106,000	5,689,000	4,655,000	5,336,000
Foster	3,875,000	2,780,000	4,898,000	.	.	4,706,000	6,003,000	4,708,000	.	4,356,000

County	Production (Bushels)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Towner	1,800,000	1,499,000	2,524,000	1,614,000	3,212,000	3,195,000	4,374,000	5,194,000	4,265,000	3,630,000
Cavalier	1,350,000	764,000	1,748,000	1,876,000	2,891,000	3,154,000	4,927,000	5,893,000	4,473,000	2,850,000
Emmons	1,053,000	1,181,000	1,805,000	1,755,000	3,039,000	3,359,000	3,905,000	5,370,000	4,181,000	3,374,000
Mchenry	670,000	485,000	1,237,000	.	3,613,000	3,286,000	4,888,000	4,265,000	3,968,000	4,153,000
Eddy	1,760,000	1,670,000	2,427,000	2,223,000	3,063,000	2,059,000	.	2,827,000	2,190,000	2,101,000
Mclean	.	.	.	1,756,000	2,880,000	.	3,914,000	.	4,278,000	4,719,000
Renville	118,000	.	473,000	.	1,367,000	2,194,000	3,649,000	4,233,000	2,456,000	2,980,000
Mcintosh	2,400,000	2,325,000	.	.	.	.	4,211,000	4,115,000	.	.
Kidder	726,000	770,000	.	1,257,000	2,320,000	1,675,000	.	2,379,000	3,002,000	.
Logan	1,600,000	1,858,000	.	1,625,000	.	.	3,058,000	3,112,000	.	.
Rolette	587,000	413,000	896,000	574,000	1,388,000	1,298,000	1,715,000	2,150,000	1,904,000	.
Sheridan	840,000	1,110,000	.	.	.	2,034,000	3,000,000	2,650,000	.	.
Burleigh	400,000	525,000	969,000	.	.	.	.	3,247,000	3,473,000	.
Mountrail	.	.	.	.	.	432,000	.	1,456,000	1,980,000	1,822,000
Oliver	.	.	.	.	292,000	.	572,000	.	667,000	794,000
Burke	.	.	.	.	.	.	.	.	961,000	882,000
Williams	.	.	90,200	.	401,000	.	291,000	271,000	.	.
Morton	.	.	224,000	.	.	.	724,000	.	.	.
Mckenzie	.	.	.	33,000	.	.	.	86,500	76,000	181,000
Grant	36,000	16,000	.	.	.	.	.	.	.	323,000
Sioux	.	.	.	.	.	.	.	.	.	351,000
Hettinger	.	.	.	.	.	.	.	71,000	.	240,000
Adams	.	.	.	.	.	.	.	58,000	.	230,000

County	Production (Bushels)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mercer	265,000	.	.	.
Divide	260,000

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Table 23: Top 15 North Dakota Counties Share based on Production, Annual Trends

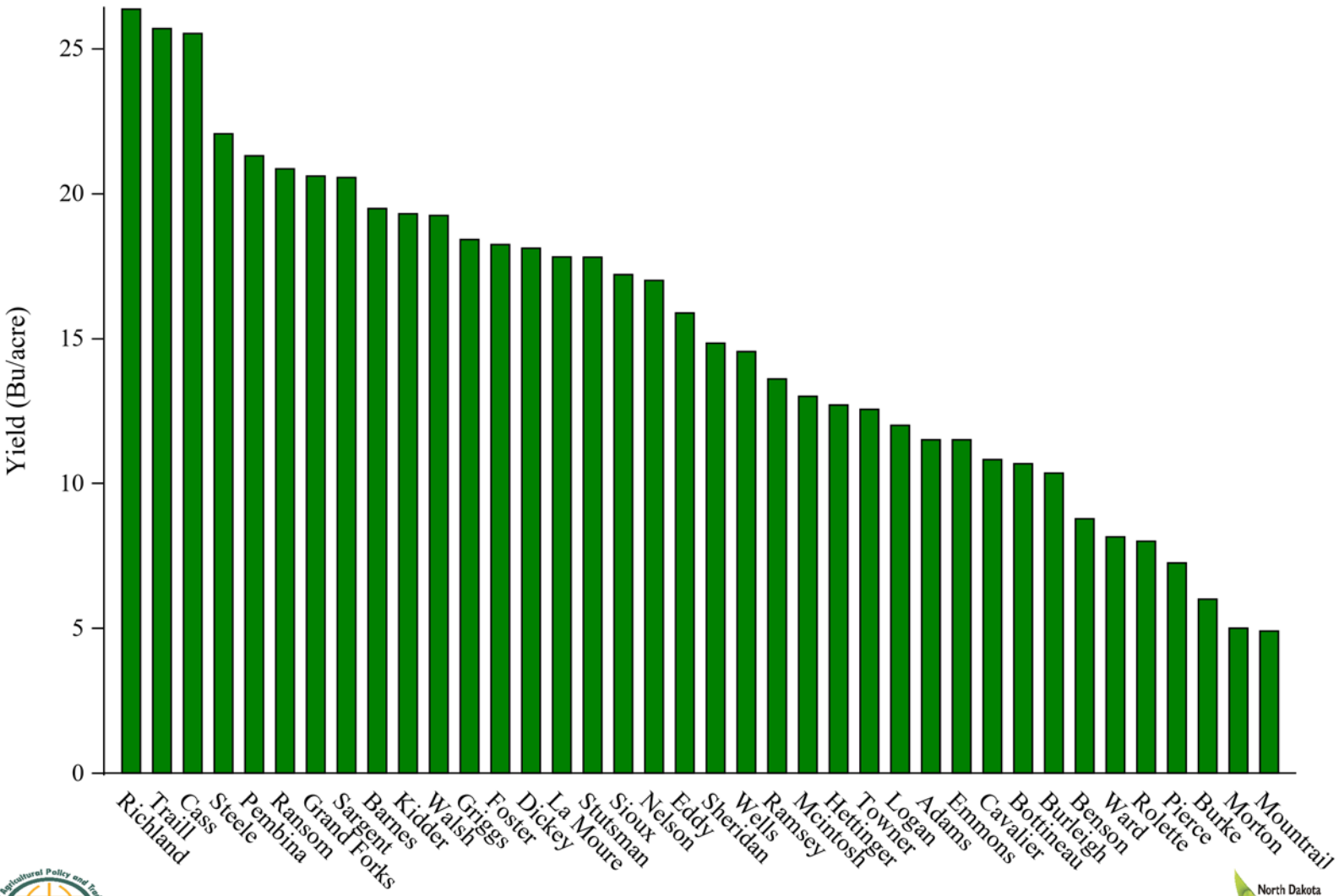
County	Share(percentages)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cass	13.41	12.10	10.22	12.21	10.84	10.80	9.06	8.02	9.48	10.14
Stutsman	9.37	8.78	9.23	9.55	8.55	8.14	7.49	6.88	8.25	6.57
Barnes	8.61	7.38	7.25	8.47	7.50	7.27	6.61	5.97	6.02	6.45
Richland	7.96	7.13	7.95	7.67	6.66	6.69	6.05	5.76	7.13	6.95
La Moure	6.02	6.82	5.43	5.21	6.45	5.69	6.13	4.64	6.42	5.12
Traill	5.26	4.39	4.39	4.87	4.00	4.47	3.85	3.62	3.69	3.94
Dickey	3.64	3.69	3.94	4.35	4.54	3.29	3.72	3.52	4.28	3.30
Wells	3.64	4.22	4.60	5.04	3.92	3.40	3.51	3.51	3.25	4.11
Sargent	3.79	3.47	3.80	4.60	3.73	3.50	3.64	3.55	4.21	3.78
Grand Forks	3.26	4.08	4.10	4.11	3.52	3.70	3.39	3.73	3.59	4.24
Steele	3.69	3.42	3.47	4.40	3.21	3.64	2.93	2.82	3.01	3.05
Ransom	2.75	2.88	3.34	.	3.17	2.90	2.93	2.85	3.17	3.01
Pembina	2.36	2.81	2.99	3.24	2.62	3.11	2.74	3.05	2.36	1.90
Benson	2.78	3.60	3.23	3.20	3.03	2.60	2.80	2.80	2.65	.
Griggs	2.67	2.23	2.70	2.96	2.28	2.30	2.26	1.91	2.22	2.44
Ramsey	2.12	2.84	3.70	2.59	2.28	1.97	2.17	2.48	2.33	.
Bottineau	0.42	0.18	0.93	.	1.83	2.49	3.21	3.91	2.84	3.83
Nelson	2.02	2.38	2.26	2.89	2.13	2.16	2.06	2.23	2.04	2.43
Walsh	1.69	2.24	2.32	2.03	2.16	1.92	2.02	2.35	1.90	.
Pierce	1.57	1.83	1.80	2.27	2.07	1.78	1.77	1.86	1.66	2.35
Ward	0.49	.	1.13	.	2.10	2.38	2.56	2.42	2.14	3.67
Foster	2.81	2.44	3.18	.	.	2.71	2.52	2.00	.	3.00

County	Share(percentages)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Towner	1.30	1.32	1.64	1.31	1.74	1.84	1.84	2.20	1.96	2.50
Cavalier	0.98	0.67	1.13	1.52	1.57	1.82	2.07	2.50	2.05	1.96
Emmons	0.76	1.04	1.17	1.43	1.65	1.94	1.64	2.28	1.92	2.32
Mchenry	0.49	0.43	0.80	.	1.96	1.89	2.05	1.81	1.82	2.86
Eddy	1.28	1.47	1.57	1.81	1.66	1.19	.	1.20	1.00	1.45
Mclean	.	.	.	1.43	1.56	.	1.64	.	1.96	3.25
Renville	0.09	.	0.31	.	0.74	1.26	1.53	1.80	1.13	2.05
Mcintosh	1.74	2.04	.	.	.	.	1.77	1.75	.	.
Kidder	0.53	0.68	.	1.02	1.26	0.97	.	1.01	1.38	.
Logan	1.16	1.63	.	1.32	.	.	1.28	1.32	.	.
Rolette	0.43	0.36	0.58	0.47	0.75	0.75	0.72	0.91	0.87	.
Sheridan	0.61	0.98	.	.	.	1.17	1.26	1.12	.	.
Burleigh	0.29	0.46	0.63	.	.	.	.	1.38	1.59	.
Mountrail	.	.	.	.	.	0.25	.	0.62	0.91	1.25
Oliver	.	.	.	.	0.16	.	0.24	.	0.31	0.55
Burke	.	.	.	.	.	.	.	.	0.44	0.61
Williams	.	.	0.06	.	0.22	.	0.12	0.12	.	.
Morton	.	.	0.15	.	.	.	0.30	.	.	.
Mckenzie	.	.	.	0.03	.	.	.	0.04	0.03	0.12
Grant	0.03	0.01	.	.	.	.	.	.	.	0.22
Sioux	.	.	.	.	.	.	.	.	.	0.24
Hettinger	.	.	.	.	.	.	.	0.03	.	0.17
Adams	.	.	.	.	.	.	.	0.02	.	0.16

	Share(percentages)									
County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mercer	0.11	.	.	.
Divide	0.14

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Figure 27: North Dakota Counties Yield, 1980 to 1989



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Table 24: North Dakota Counties Yield, Descriptive Statistics for 1980 to 1989

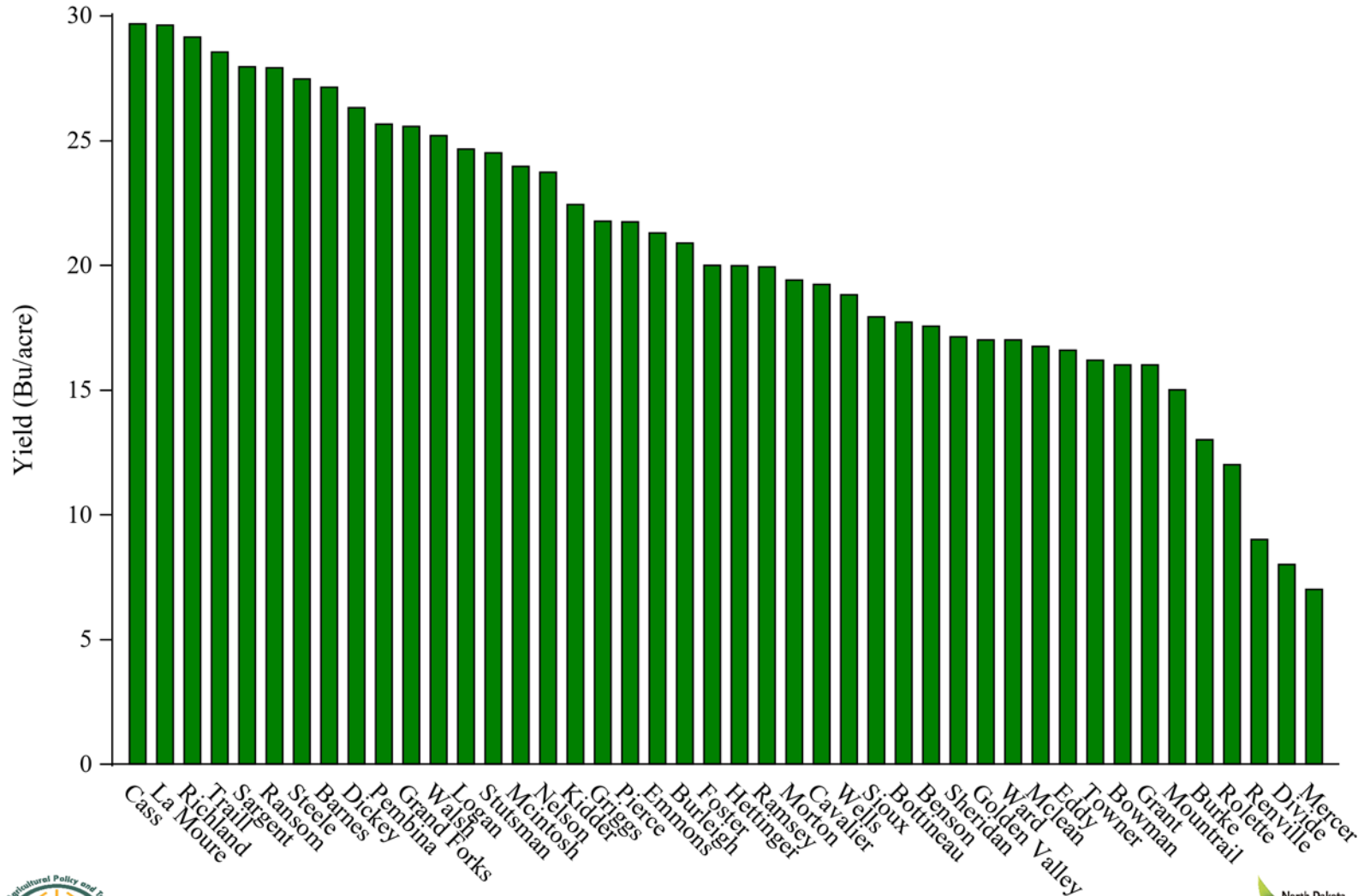
County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Richland	10	26.36	5.78	21.9
Traill	10	25.69	6.63	25.8
Cass	10	25.52	7.60	29.8
Steele	10	22.06	6.83	31.0
Pembina	10	21.30	5.54	26.0
Ransom	10	20.85	6.73	32.3
Grand Forks	10	20.60	6.54	31.8
Sargent	10	20.55	7.86	38.2
Barnes	10	19.48	5.72	29.4
Kidder	5	19.30	6.80	35.2
Walsh	10	19.24	5.55	28.8
Griggs	10	18.41	6.36	34.5
Foster	8	18.24	4.71	25.8
Dickey	9	18.11	5.93	32.8
La Moure	10	17.81	6.61	37.1
Stutsman	9	17.80	6.27	35.2
Sioux	2	17.20	3.96	23.0
Nelson	9	17.00	5.49	32.3

County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Eddy	8	15.88	5.14	32.4
Sheridan	6	14.83	8.91	60.1
Wells	9	14.54	6.25	43.0
Ramsey	8	13.60	6.82	50.2
Mcintosh	1	13.00	.	.
Hettinger	2	12.70	3.82	30.1
Towner	8	12.55	5.54	44.1
Logan	3	12.00	8.54	71.2
Adams	2	11.50	2.12	18.4
Emmons	2	11.50	3.54	30.7
Cavalier	6	10.82	3.94	36.5
Bottineau	4	10.68	5.11	47.8
Burleigh	2	10.35	0.49	4.8
Benson	4	8.78	4.22	48.0
Ward	2	8.15	0.21	2.6
Rolette	1	8.00	.	.
Pierce	2	7.25	0.35	4.9
Burke	2	6.00	1.41	23.6
Morton	1	5.00	.	.

County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Mountrail	2	4.90	0.14	2.9

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Figure 28: North Dakota Counties Yield, 1990 to 1999



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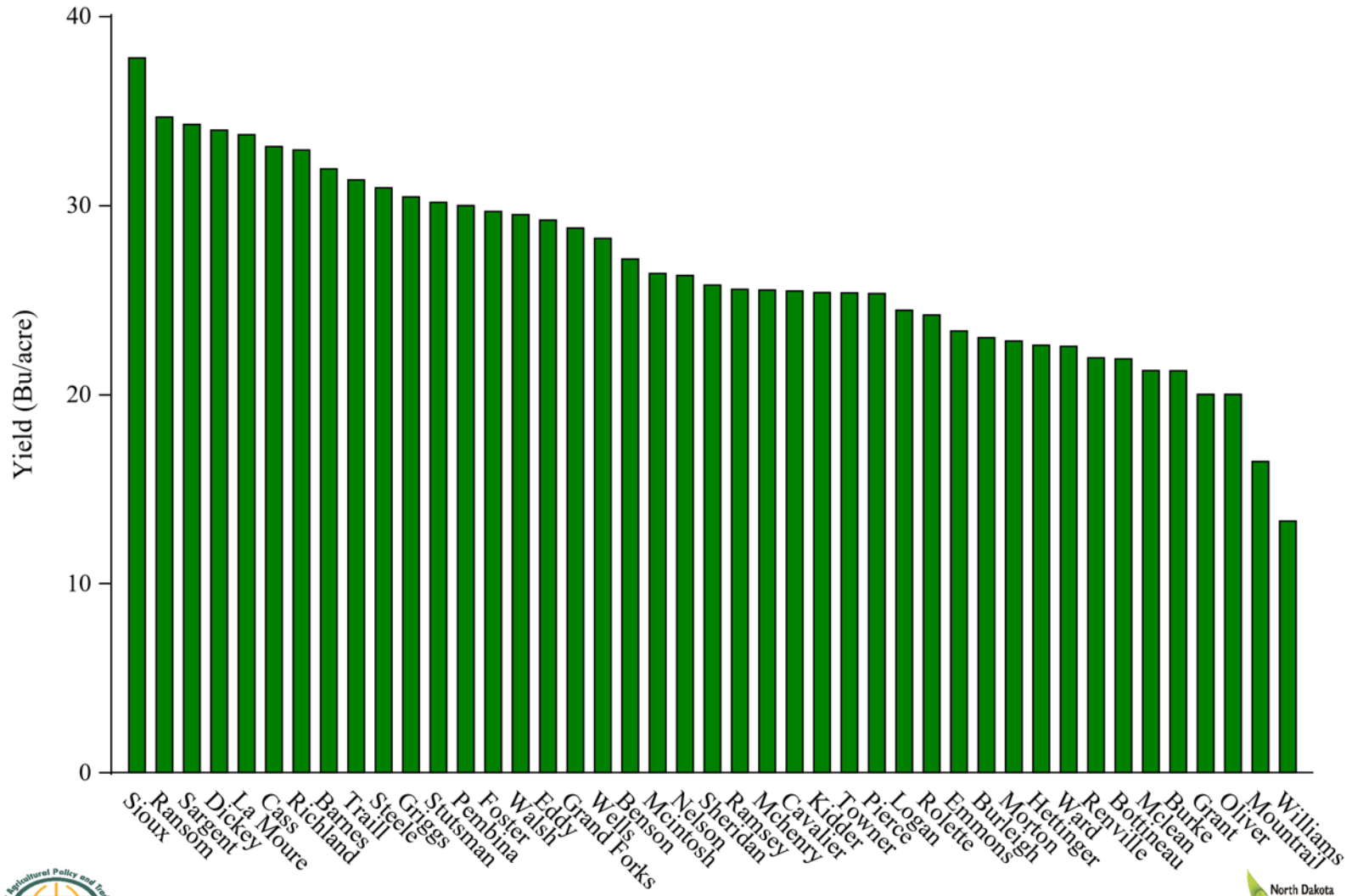
Table 25: North Dakota Counties Yield, Descriptive Statistics for 1990 to 1999

County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Cass	10	29.67	5.17	17.4
La Moure	10	29.62	5.94	20.0
Richland	10	29.14	5.72	19.6
Traill	10	28.54	3.86	13.5
Sargent	10	27.95	6.14	22.0
Ransom	10	27.91	5.81	20.8
Steele	10	27.46	5.55	20.2
Barnes	10	27.13	5.91	21.8
Dickey	10	26.31	6.11	23.2
Pembina	10	25.65	5.60	21.8
Grand Forks	10	25.56	4.52	17.7
Walsh	10	25.19	7.34	29.2
Logan	4	24.65	4.61	18.7
Stutsman	10	24.50	7.32	29.9
Mcintosh	7	23.96	5.13	21.4
Nelson	10	23.72	5.13	21.6
Kidder	7	22.43	6.00	26.7
Griggs	10	21.76	6.16	28.3

County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Pierce	3	21.73	6.27	28.8
Emmons	9	21.29	4.60	21.6
Burleigh	6	20.88	8.09	38.7
Foster	10	19.99	5.87	29.4
Hettinger	4	19.98	6.34	31.7
Ramsey	7	19.93	4.58	23.0
Morton	1	19.40	.	.
Cavalier	8	19.23	5.86	30.5
Wells	9	18.81	6.28	33.4
Sioux	8	17.93	7.85	43.8
Bottineau	7	17.71	8.16	46.1
Benson	10	17.55	5.85	33.3
Sheridan	4	17.13	7.39	43.2
Ward	2	17.00	11.31	66.6
Golden Valley	1	17.00	.	.
Mclean	7	16.74	6.99	41.7
Eddy	8	16.59	5.91	35.6
Towner	8	16.19	6.93	42.8
Grant	2	16.00	5.66	35.4

County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Bowman	1	16.00	.	.
Mountrail	2	15.00	7.07	47.1
Burke	1	13.00	.	.
Rolette	1	12.00	.	.
Renville	1	9.00	.	.
Divide	1	8.00	.	.
Mercer	1	7.00	.	.

Figure 29: North Dakota Counties Yield, 2000 to 2009



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Table 26: North Dakota Counties Yield, Descriptive Statistics for 2000 to 2009

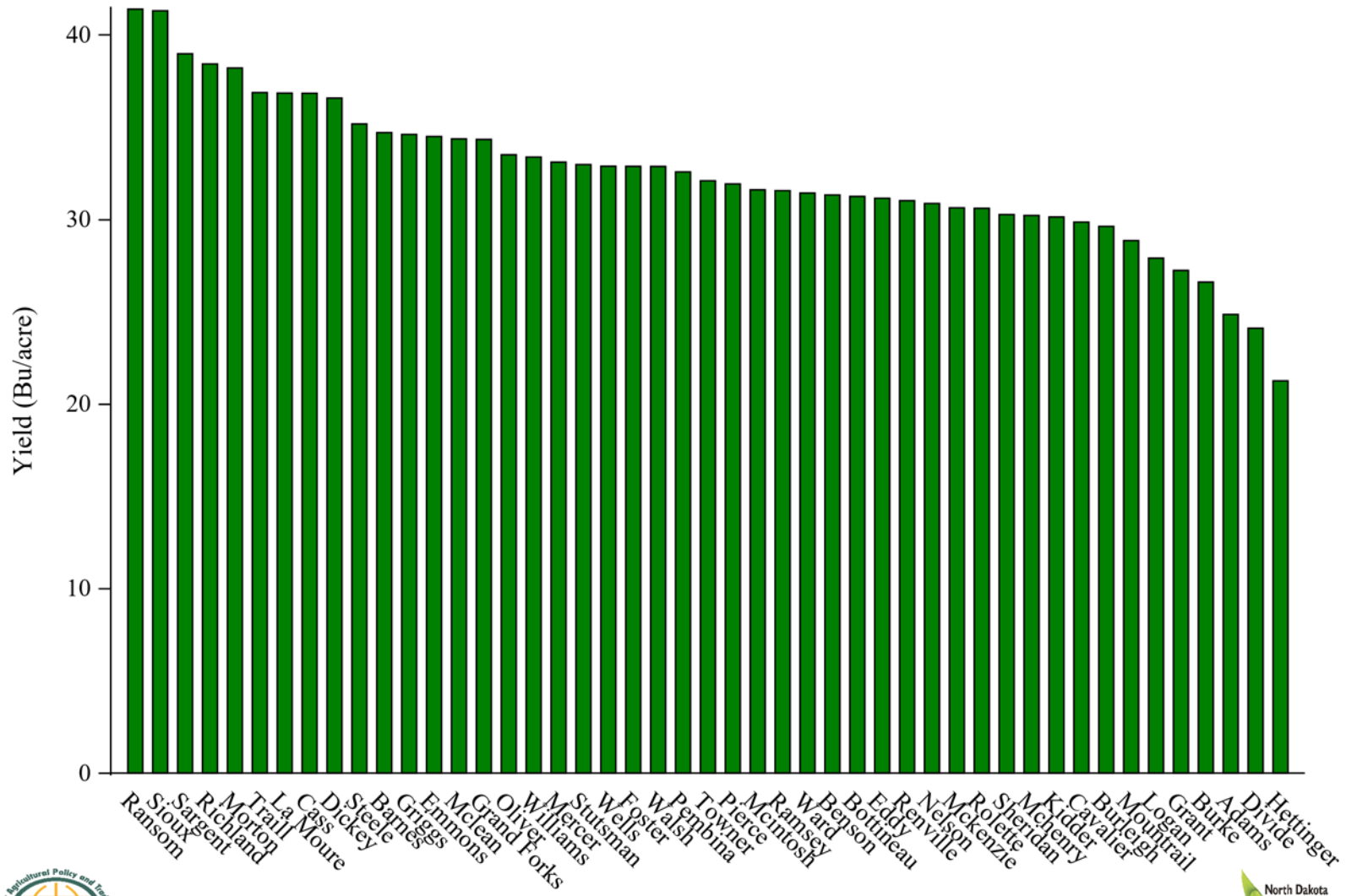
County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Sioux	2	37.80	3.11	8.2
Ransom	10	34.67	3.49	10.1
Sargent	10	34.28	4.46	13.0
Dickey	10	33.98	4.32	12.7
La Moure	10	33.74	4.23	12.5
Cass	10	33.11	3.66	11.1
Richland	10	32.93	2.71	8.2
Barnes	10	31.93	4.21	13.2
Traill	10	31.35	4.51	14.4
Steele	10	30.93	4.41	14.3
Griggs	10	30.45	5.30	17.4
Stutsman	10	30.16	4.71	15.6
Pembina	10	29.99	6.04	20.1
Foster	10	29.68	5.61	18.9
Walsh	10	29.51	6.21	21.0
Eddy	10	29.22	6.07	20.8
Grand Forks	10	28.80	5.33	18.5
Wells	9	28.26	5.55	19.7

County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Benson	10	27.16	5.00	18.4
Mcintosh	10	26.40	6.87	26.0
Nelson	10	26.29	5.96	22.7
Sheridan	7	25.79	5.96	23.1
Ramsey	10	25.56	5.83	22.8
Mchenry	9	25.52	4.76	18.6
Cavalier	10	25.47	6.42	25.2
Kidder	8	25.39	6.01	23.7
Towner	10	25.37	6.06	23.9
Pierce	9	25.33	5.20	20.5
Logan	10	24.45	7.22	29.5
Rolette	10	24.20	5.44	22.5
Emmons	9	23.36	7.15	30.6
Burleigh	8	23.00	7.65	33.3
Morton	4	22.83	8.88	38.9
Hettinger	1	22.60	.	.
Ward	9	22.54	5.09	22.6
Renville	8	21.94	5.84	26.6
Bottineau	10	21.88	4.62	21.1

County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Mclean	5	21.26	4.90	23.0
Burke	2	21.25	1.77	8.3
Grant	2	20.00	5.66	28.3
Oliver	1	20.00	.	.
Mountrail	2	16.45	3.75	22.8
Williams	1	13.30	.	.

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Figure 30: North Dakota Counties Yield, 2010 to 2019



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Table 27: North Dakota Counties Yield, Descriptive Statistics for 2010 to 2019

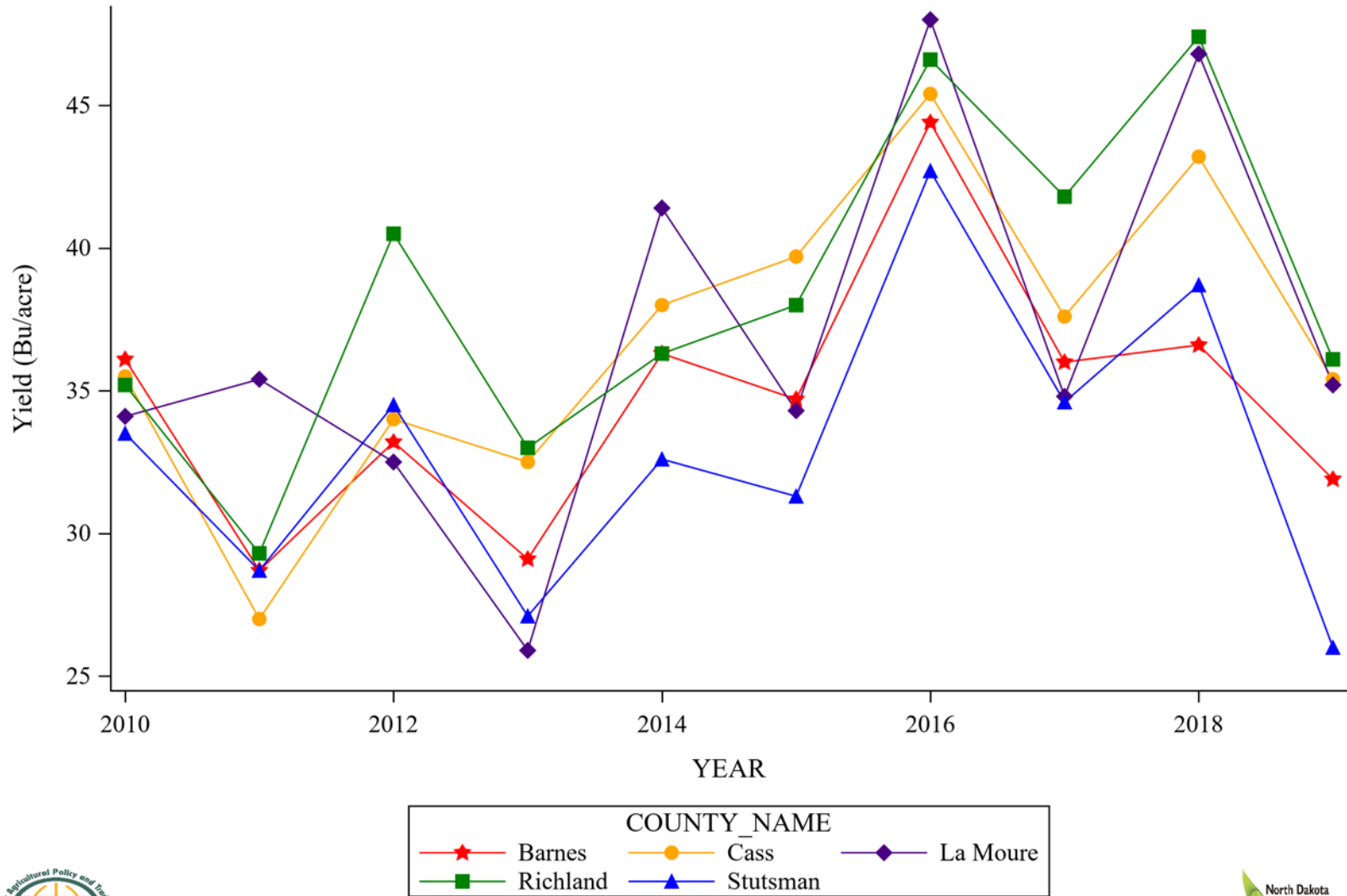
County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Ransom	9	41.39	4.84	11.7
Sioux	1	41.30	.	.
Sargent	10	38.97	6.12	15.7
Richland	10	38.42	5.74	14.9
Morton	2	38.20	7.35	19.3
Traill	10	36.87	5.04	13.7
La Moure	10	36.84	6.72	18.2
Cass	10	36.83	5.29	14.4
Dickey	10	36.57	5.40	14.8
Steele	10	35.17	4.78	13.6
Barnes	10	34.70	4.49	12.9
Griggs	10	34.60	4.38	12.7
Emmons	10	34.49	4.45	12.9
McLean	5	34.36	5.21	15.2
Grand Forks	10	34.33	3.13	9.1
Oliver	4	33.50	7.73	23.1
Williams	4	33.38	5.07	15.2
Mercer	1	33.10	.	.

County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Stutsman	10	32.97	5.13	15.6
Wells	10	32.88	3.87	11.8
Foster	7	32.87	4.59	14.0
Walsh	9	32.87	2.58	7.9
Pembina	10	32.57	4.67	14.3
Towner	10	32.09	2.11	6.6
Pierce	10	31.92	2.88	9.0
Mcintosh	4	31.60	3.72	11.8
Ramsey	9	31.56	4.39	13.9
Ward	8	31.43	5.28	16.8
Benson	9	31.32	3.45	11.0
Bottineau	9	31.24	4.57	14.6
Eddy	9	31.14	4.46	14.3
Renville	8	31.01	4.29	13.8
Nelson	10	30.86	2.41	7.8
Mckenzie	4	30.63	7.82	25.5
Rolette	9	30.60	2.74	9.0
Sheridan	5	30.26	3.90	12.9
Mchenry	9	30.21	4.73	15.7

County	Yield (Bu/acre)			
	N	Mean	Risk	Coefficient of Variation
Kidder	7	30.13	3.94	13.1
Cavalier	10	29.85	3.63	12.2
Burleigh	5	29.62	2.29	7.7
Mountrail	4	28.85	1.39	4.8
Logan	5	27.90	6.82	24.4
Grant	3	27.23	0.76	2.8
Burke	2	26.60	4.53	17.0
Adams	2	24.85	15.63	62.9
Divide	1	24.10	.	.
Hettinger	2	21.25	10.39	48.9

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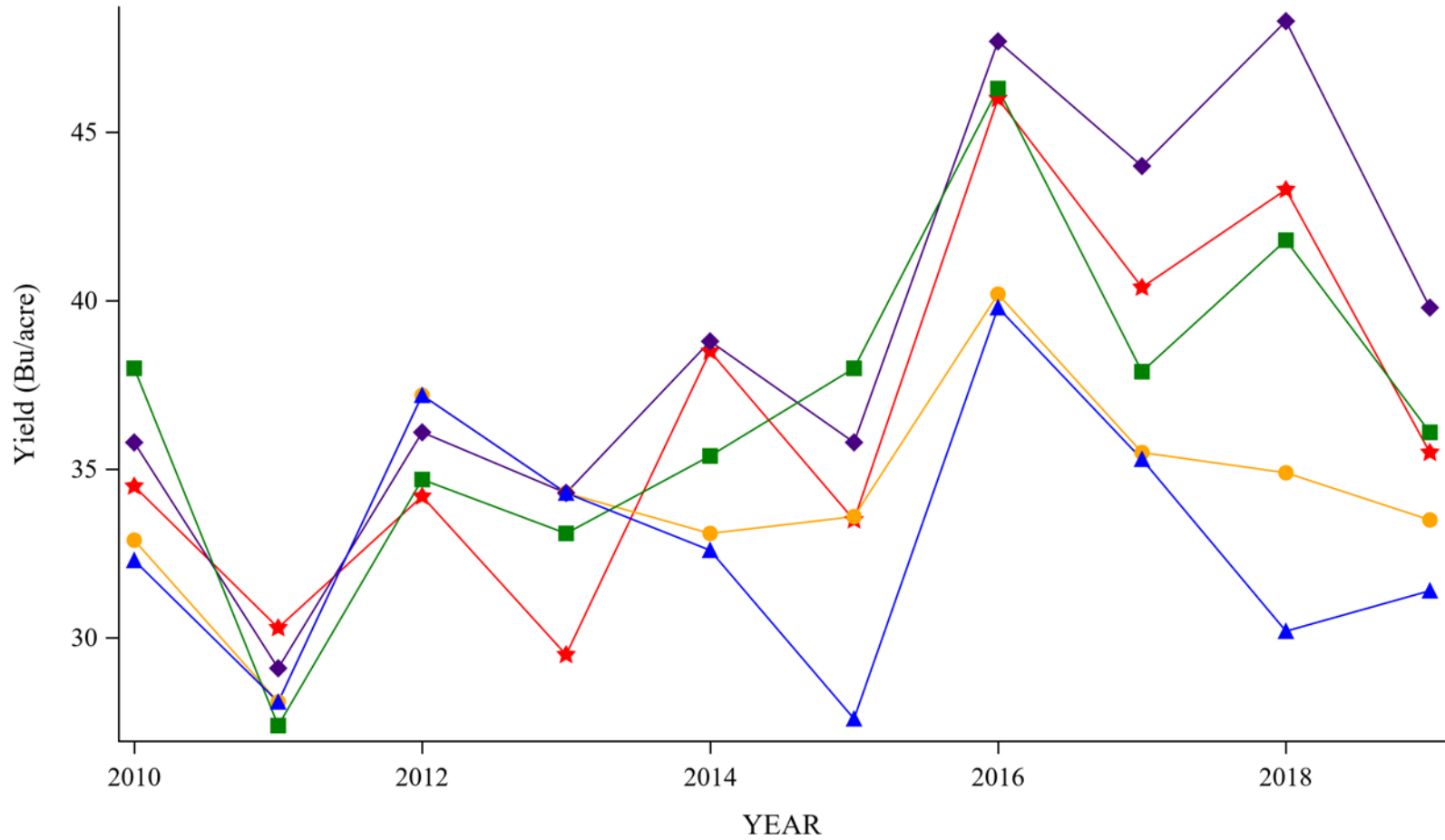
Figure 31: Top 5 North Dakota Counties Yield, Annual Trends



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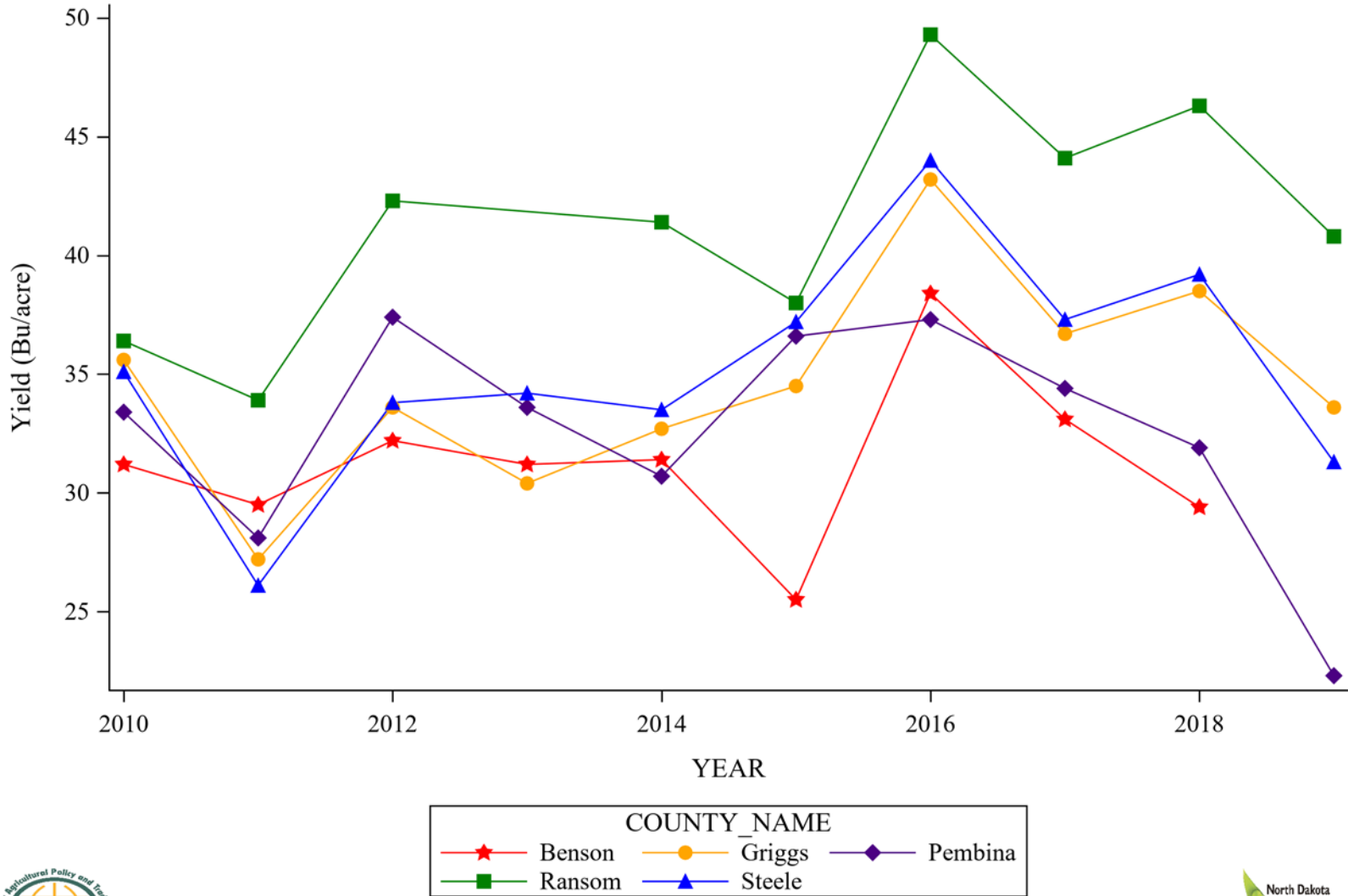
Figure 32: Top 6 to 10 North Dakota Counties Yield, Annual Trends



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Figure 33: Top 11 to 15 North Dakota Counties Yield, Annual Trends



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Table 28: Top 15 North Dakota Counties Yield, Annual Trends

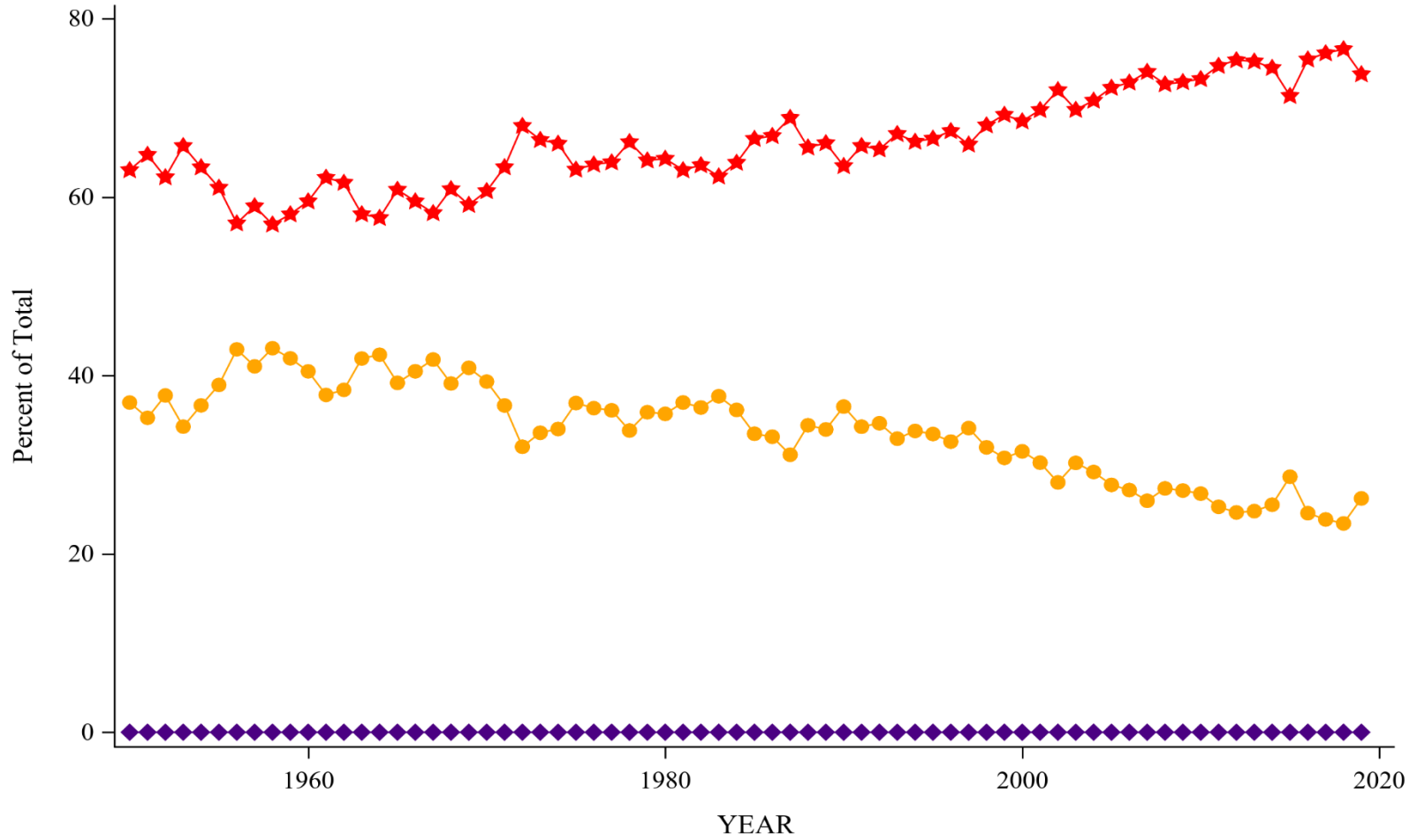
County	Yield (Bu/acre)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cass	35.50	27.00	34.00	32.50	38.00	39.70	45.40	37.60	43.20	35.40
Stutsman	33.50	28.70	34.50	27.10	32.60	31.30	42.70	34.60	38.70	26.00
Barnes	36.10	28.70	33.20	29.10	36.30	34.70	44.40	36.00	36.60	31.90
Richland	35.20	29.30	40.50	33.00	36.30	38.00	46.60	41.80	47.40	36.10
La Moure	34.10	35.40	32.50	25.90	41.40	34.30	48.00	34.80	46.80	35.20
Traill	38.00	27.40	34.70	33.10	35.40	38.00	46.30	37.90	41.80	36.10
Dickey	34.50	30.30	34.20	29.50	38.50	33.50	46.00	40.40	43.30	35.50
Wells	32.30	28.10	37.20	34.30	32.60	27.60	39.80	35.30	30.20	31.40
Sargent	35.80	29.10	36.10	34.30	38.80	35.80	47.70	44.00	48.30	39.80
Grand Forks	32.90	28.10	37.20	34.30	33.10	33.60	40.20	35.50	34.90	33.50
Steele	35.10	26.10	33.80	34.20	33.50	37.20	44.00	37.30	39.20	31.30
Ransom	36.40	33.90	42.30	.	41.40	38.00	49.30	44.10	46.30	40.80
Pembina	33.40	28.10	37.40	33.60	30.70	36.60	37.30	34.40	31.90	22.30
Benson	31.20	29.50	32.20	31.20	31.40	25.50	38.40	33.10	29.40	.
Griggs	35.60	27.20	33.60	30.40	32.70	34.50	43.20	36.70	38.50	33.60
Ramsey	30.10	28.20	40.80	33.30	30.20	24.90	33.60	32.50	30.40	.
Bottineau	33.70	28.00	27.70	.	32.40	31.60	40.30	32.70	24.00	30.80
Nelson	31.30	28.20	32.60	30.00	28.10	28.10	34.60	33.70	32.40	29.60
Walsh	32.80	30.20	35.50	30.60	32.60	30.40	37.60	34.70	31.40	.
Pierce	34.00	32.30	30.40	34.70	31.40	26.90	36.20	33.90	28.60	30.80
Ward	30.90	.	32.60	.	37.50	32.30	36.50	26.50	21.40	33.70
Foster	33.30	25.50	37.10	.	.	29.70	39.20	31.30	.	34.00

County	Yield (Bu/acre)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Towner	32.40	32.00	34.90	33.00	32.30	29.30	33.70	34.50	30.00	28.80
Cavalier	29.90	26.40	32.40	27.80	27.60	26.60	37.70	31.80	31.80	26.50
Emmons	31.20	33.90	35.90	28.90	33.50	34.60	44.70	37.20	29.90	35.10
Mchenry	32.20	27.60	26.90	.	37.10	28.60	37.80	26.60	24.20	30.90
Eddy	34.20	28.60	36.50	27.10	35.80	25.90	.	34.30	25.10	32.80
Mclean	.	.	.	38.80	35.90	.	37.20	.	25.50	34.40
Renville	31.10	.	28.70	.	35.20	33.30	36.40	29.50	22.70	31.20
Mcintosh	28.60	29.90	.	.	.	.	37.00	30.90	.	.
Kidder	29.90	29.30	.	23.90	34.90	27.20	.	30.90	34.80	.
Logan	27.50	30.70	.	17.30	.	.	36.00	28.00	.	.
Rolette	32.60	30.10	29.10	33.60	28.00	25.60	34.10	31.30	31.00	.
Sheridan	29.60	31.40	.	.	.	25.30	36.00	29.00	.	.
Burleigh	27.00	29.00	29.10	.	.	.	.	33.30	29.70	.
Mountrail	.	.	.	.	.	29.40	.	29.90	26.80	29.30
Oliver	.	.	.	.	27.30	.	43.00	.	27.10	36.60
Burke	.	.	.	.	.	.	.	.	23.40	29.80
Williams	.	.	37.90	.	27.50	.	37.30	30.80	.	.
Morton	.	.	33.00	.	.	.	43.40	.	.	.
Mckenzie	.	.	.	28.90	.	.	.	34.60	20.50	38.50
Grant	28.10	26.70	.	.	.	.	.	.	.	26.90
Sioux	.	.	.	.	.	.	.	.	.	41.30
Hettinger	.	.	.	.	.	.	.	13.90	.	28.60
Adams	.	.	.	.	.	.	.	13.80	.	35.90

	Yield (Bu/acre)									
County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mercer	33.10	.	.	.
Divide	24.10

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Figure 34: State Level Variance Decomposition, Planted Acreage Trends

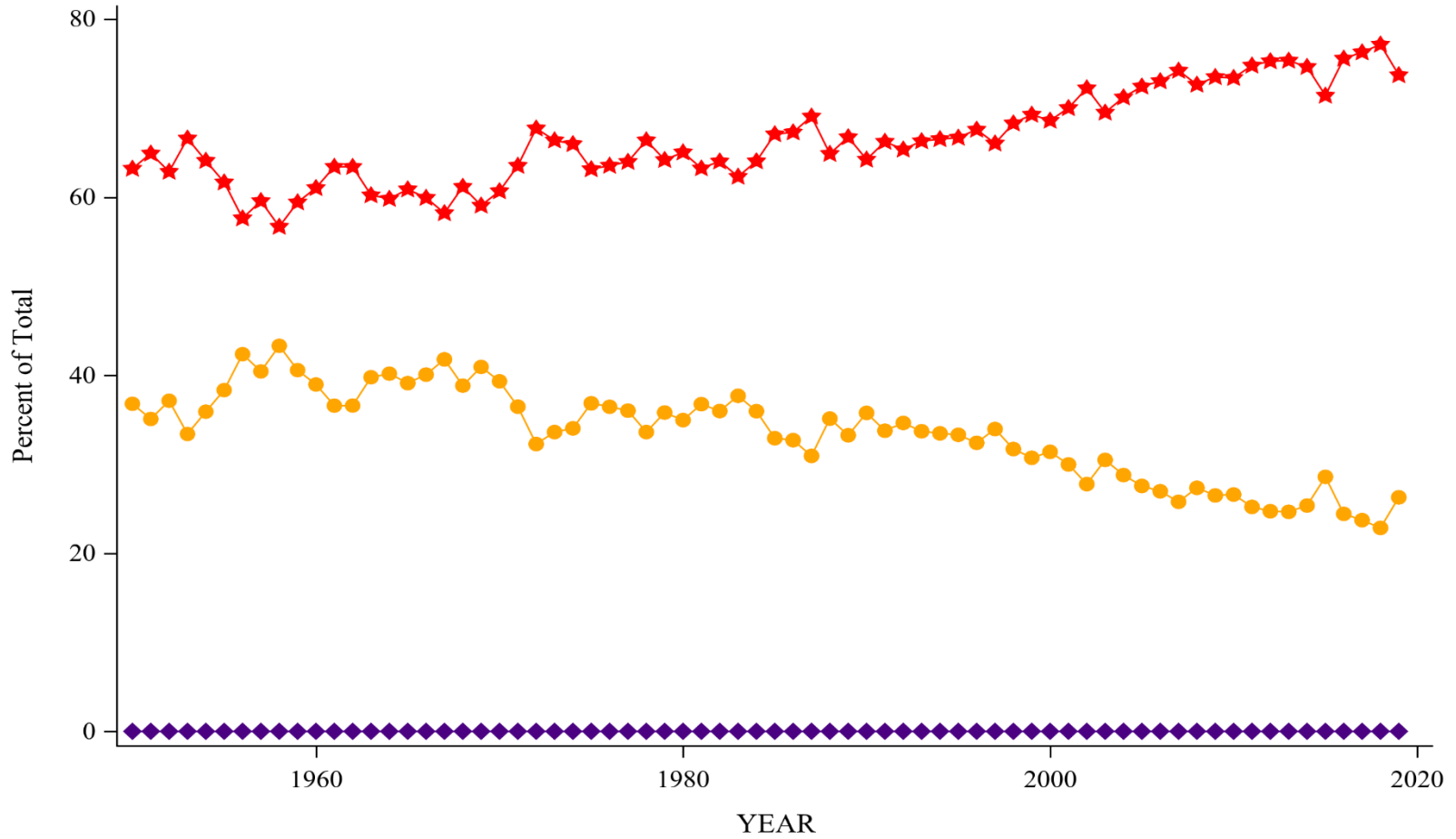


Variance Source —★— Region —●— State —◆— Unexplained

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Figure 35: State Level Variance Decomposition, Harvested Acreage Trends

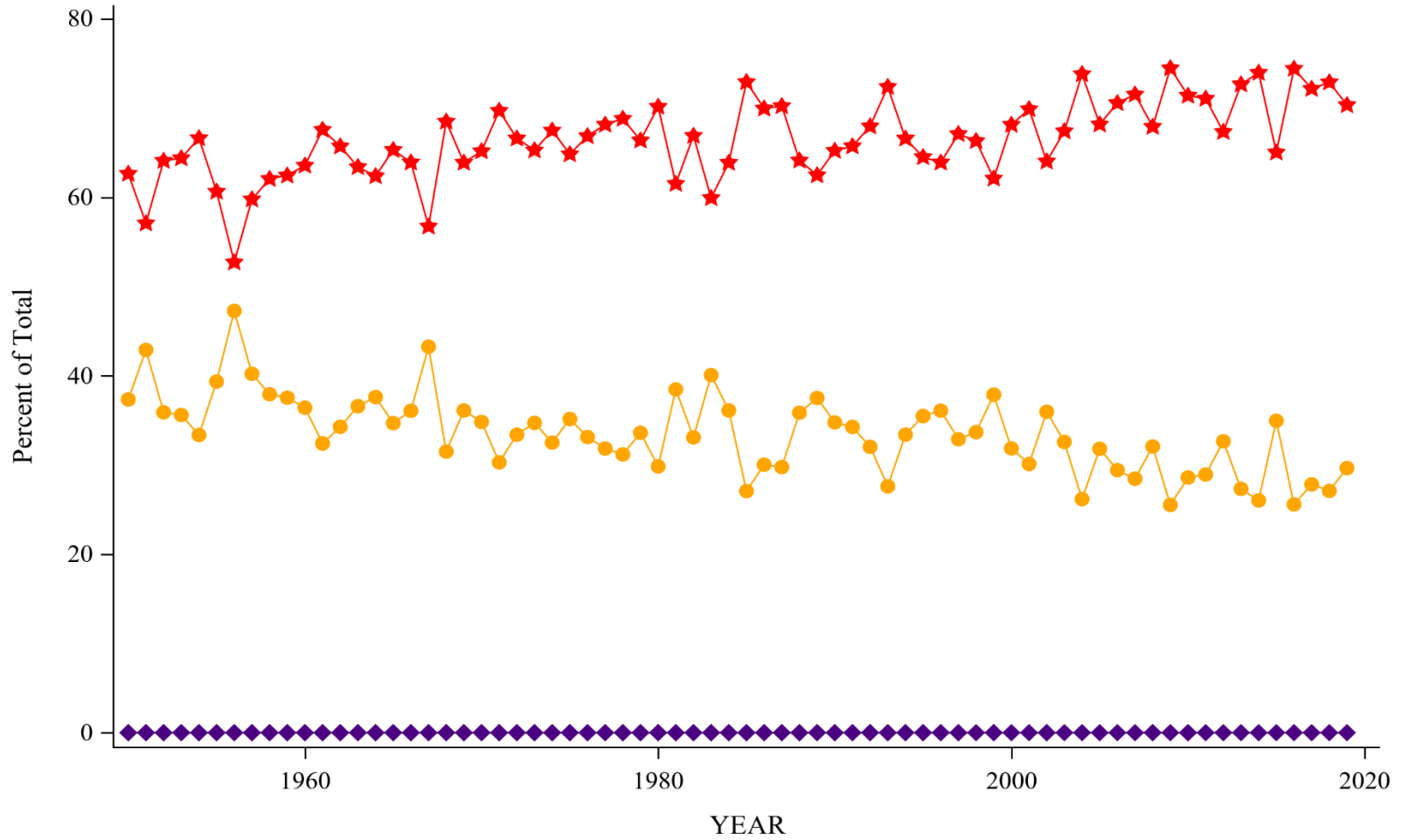


Variance Source ★ Region ● State ◆ Unexplained

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Figure 36: State Level Variance Decomposition, Production Trends

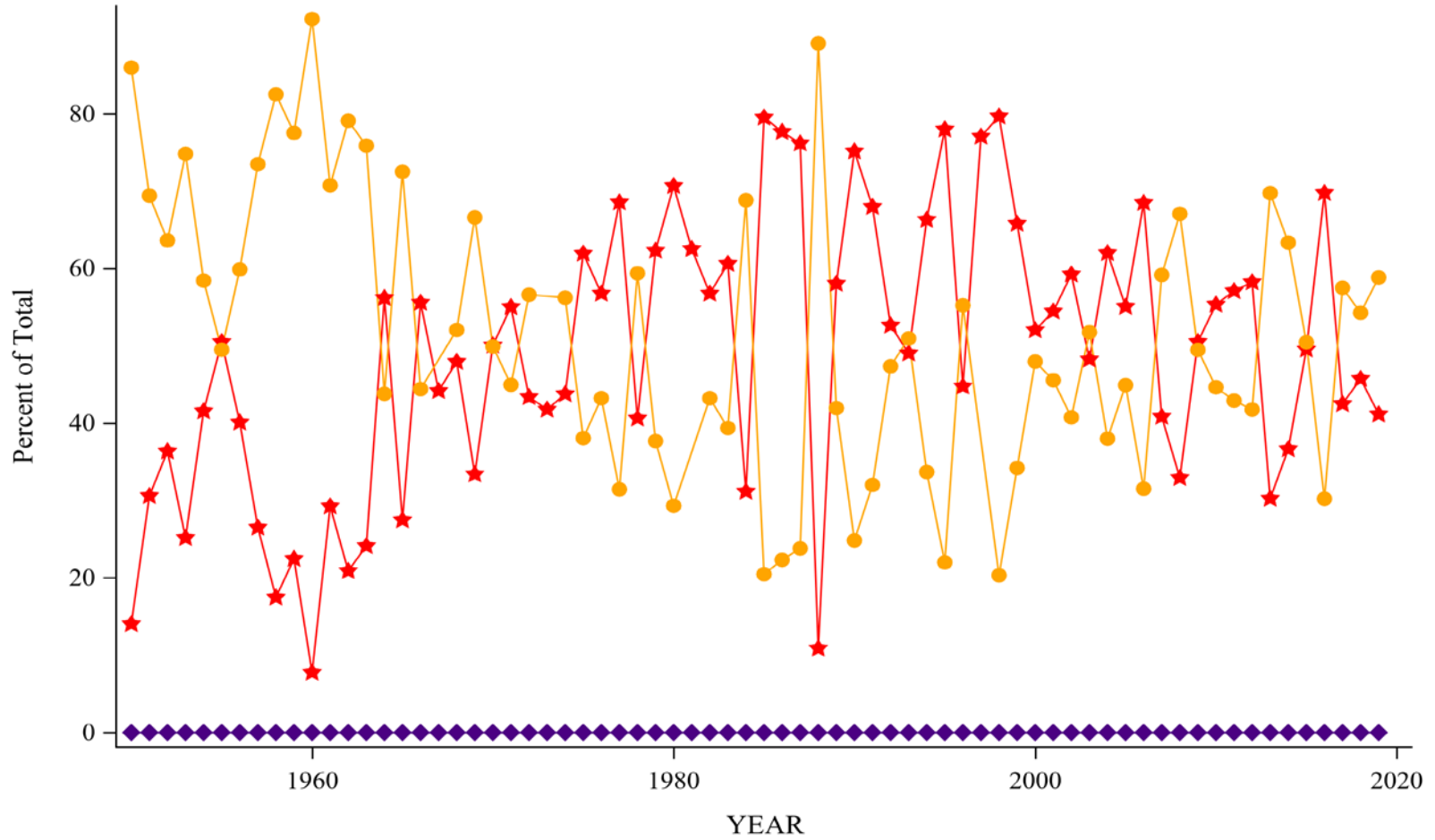


Variance Source —★— Region —●— State —◆— Unexplained

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Figure 37: State Level Variance Decomposition, Yields Trends

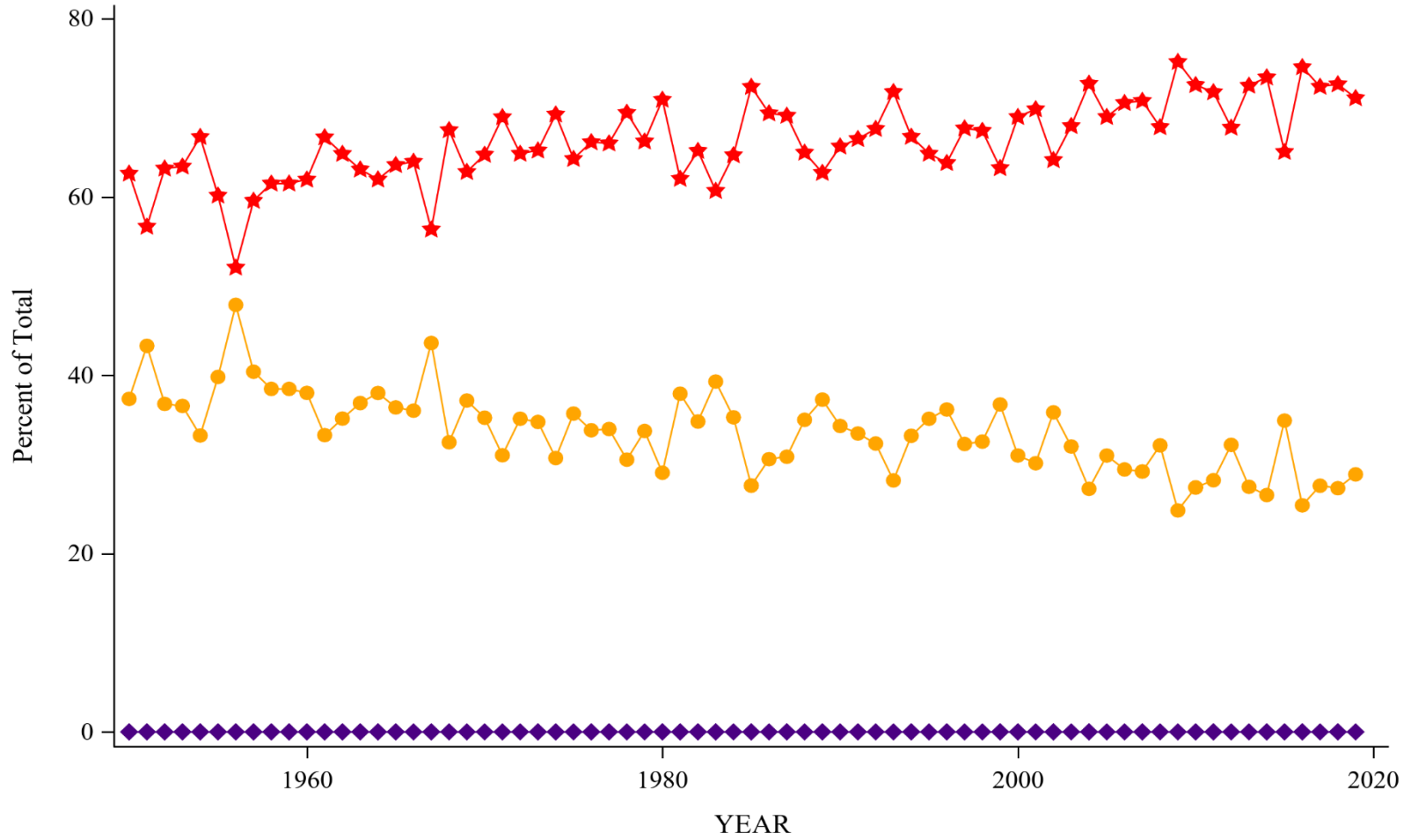


Variance Source —★— Region —●— State —◆— Unexplained

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Figure 38: State Level Variance Decomposition, Revenue Trends

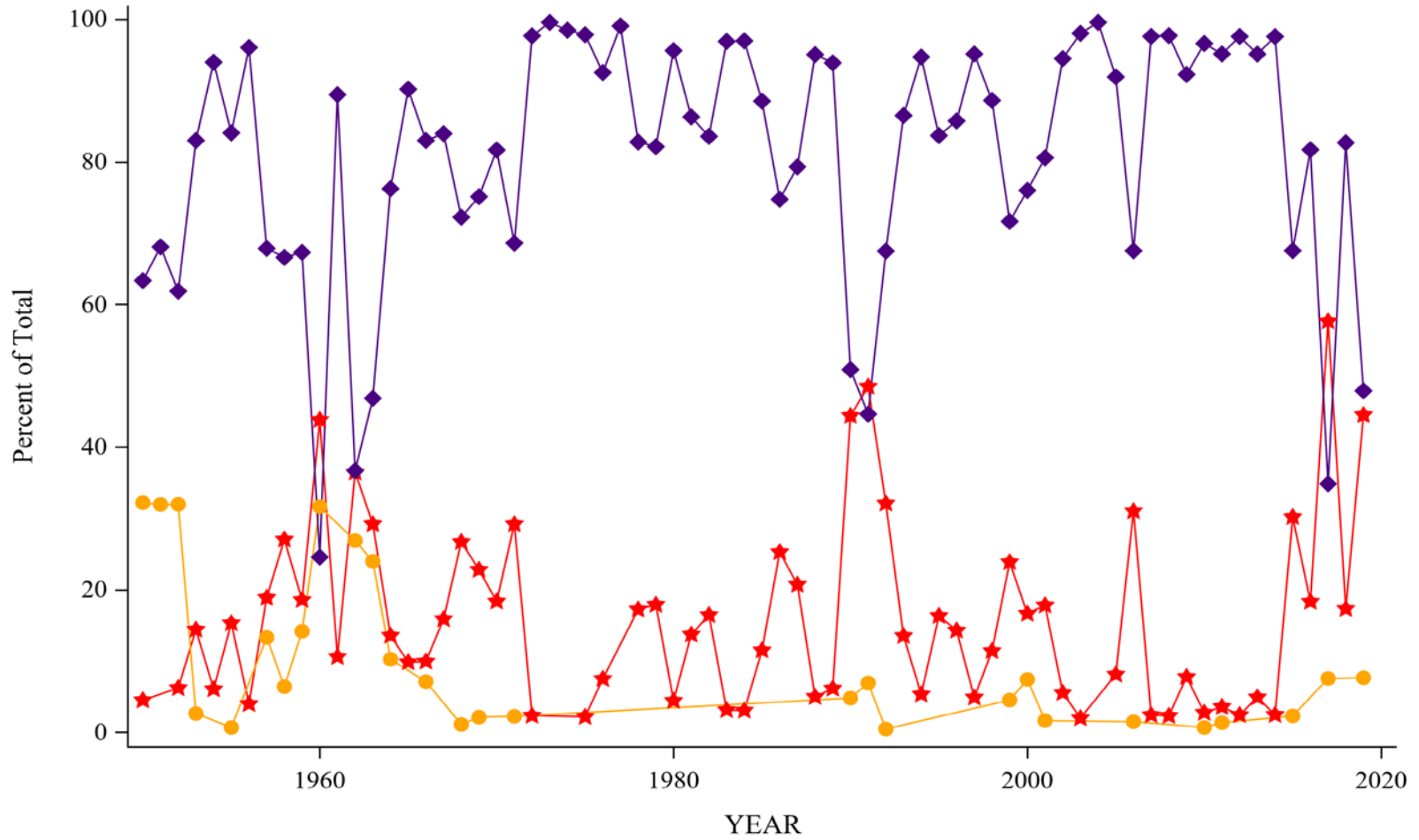


Variance Source —★— Region —●— State —◆— Unexplained

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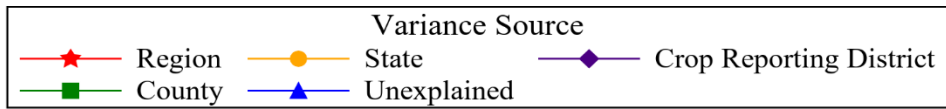
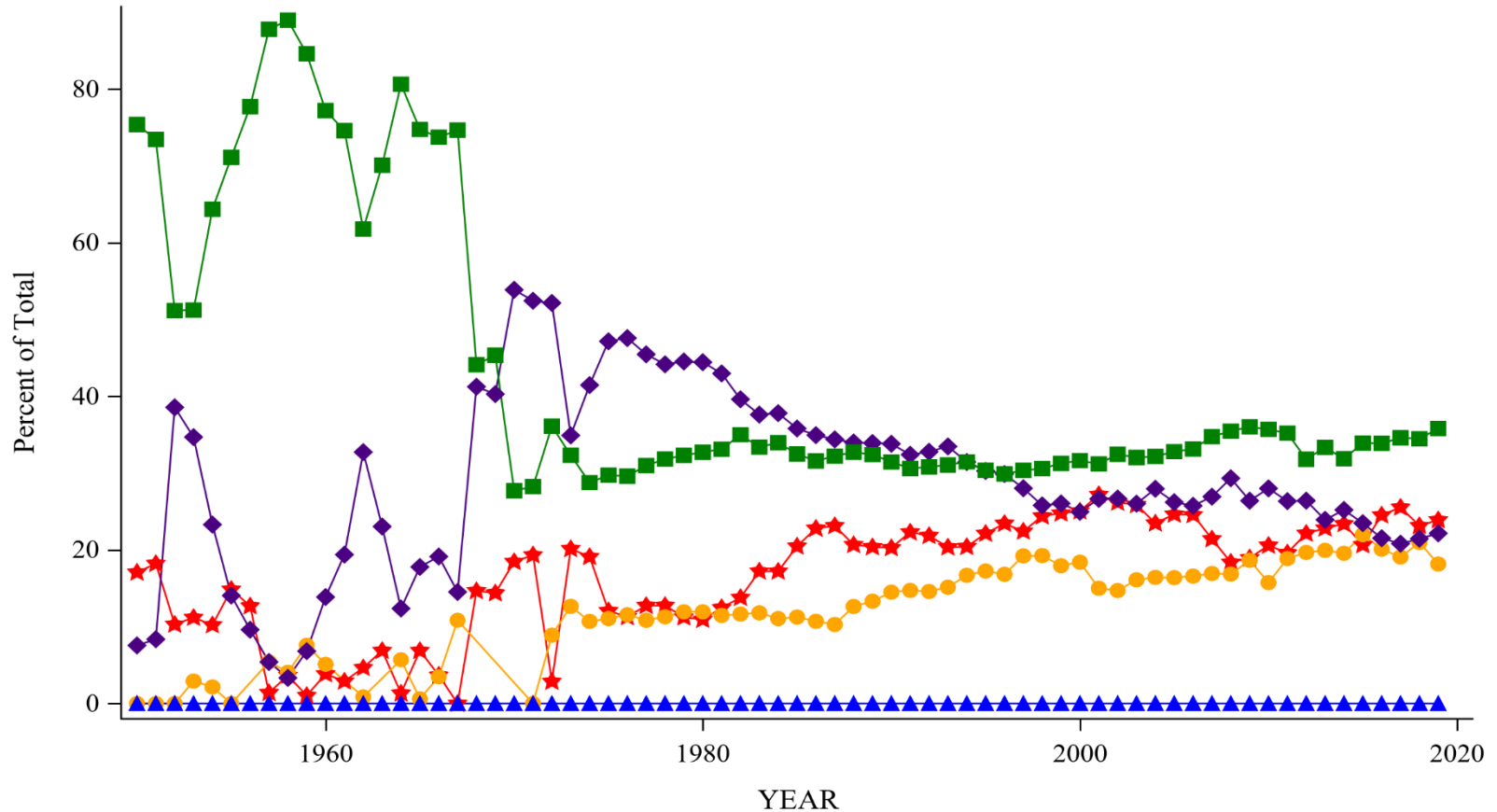
Figure 39: State Level Variance Decomposition, Price Trends



Variance Source —★— Region —●— State —◆— Unexplained
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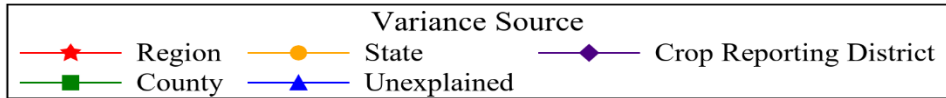
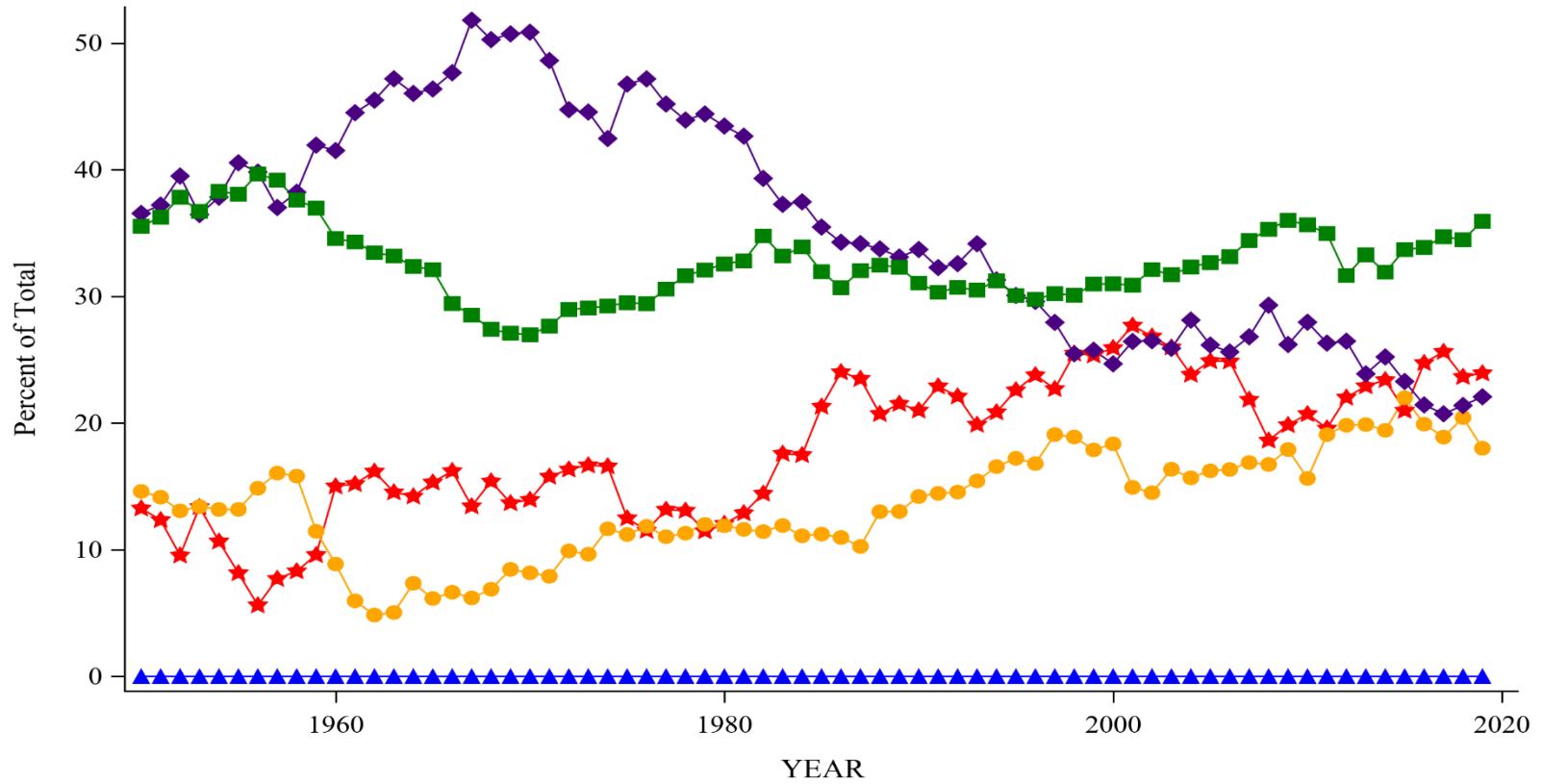
Figure 40: County Level Variance Decomposition, Planted Acreage Trends



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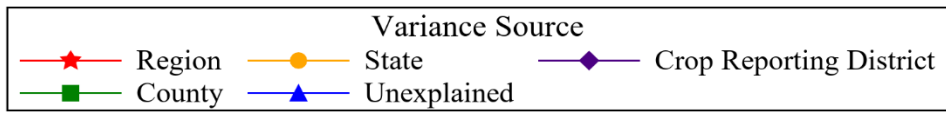
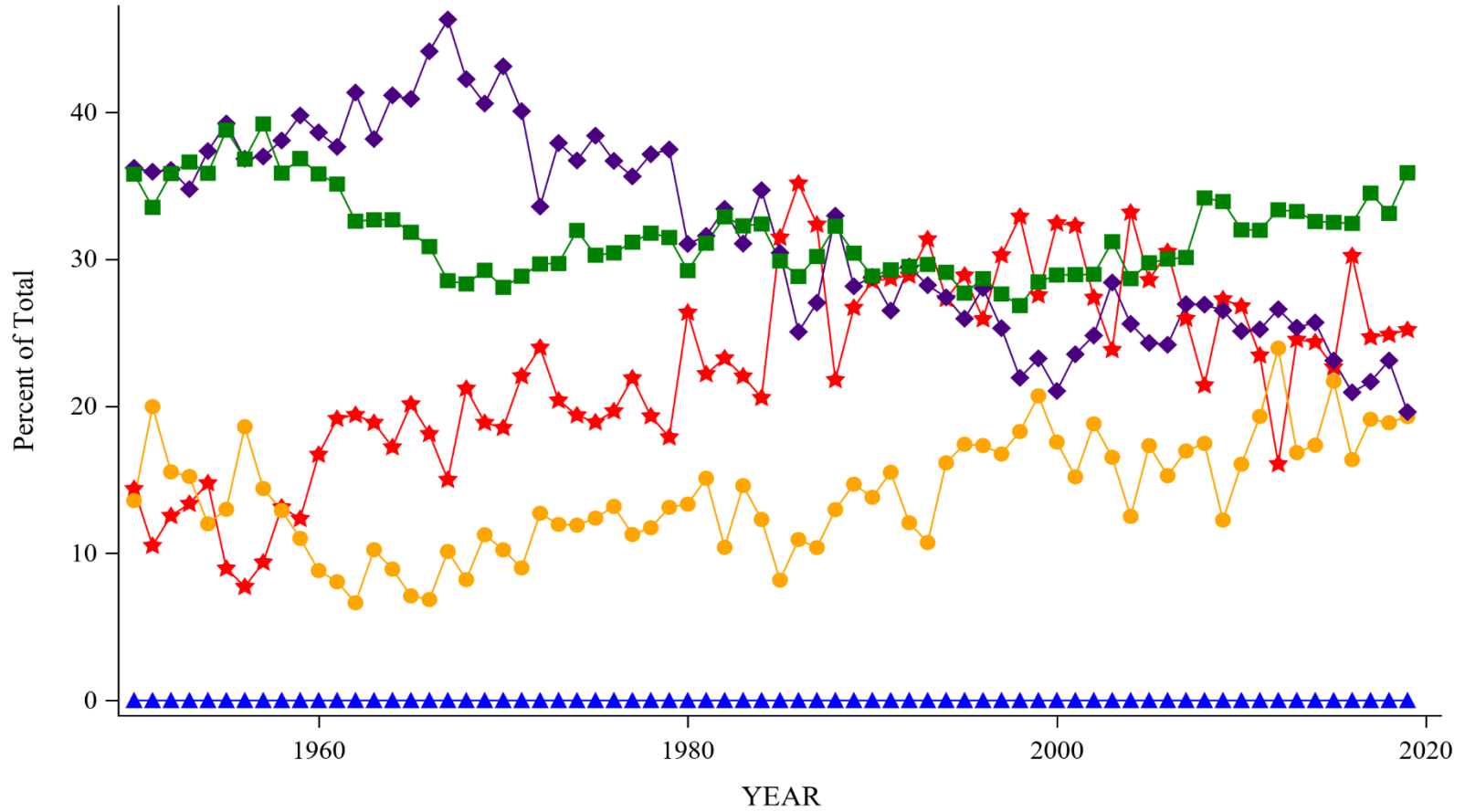
Figure 41: County Level Variance Decomposition, Harvested Acreage Trends



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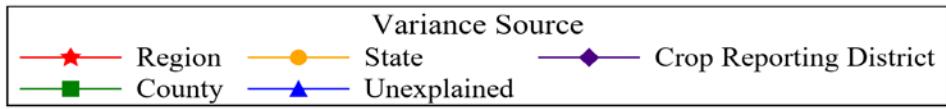
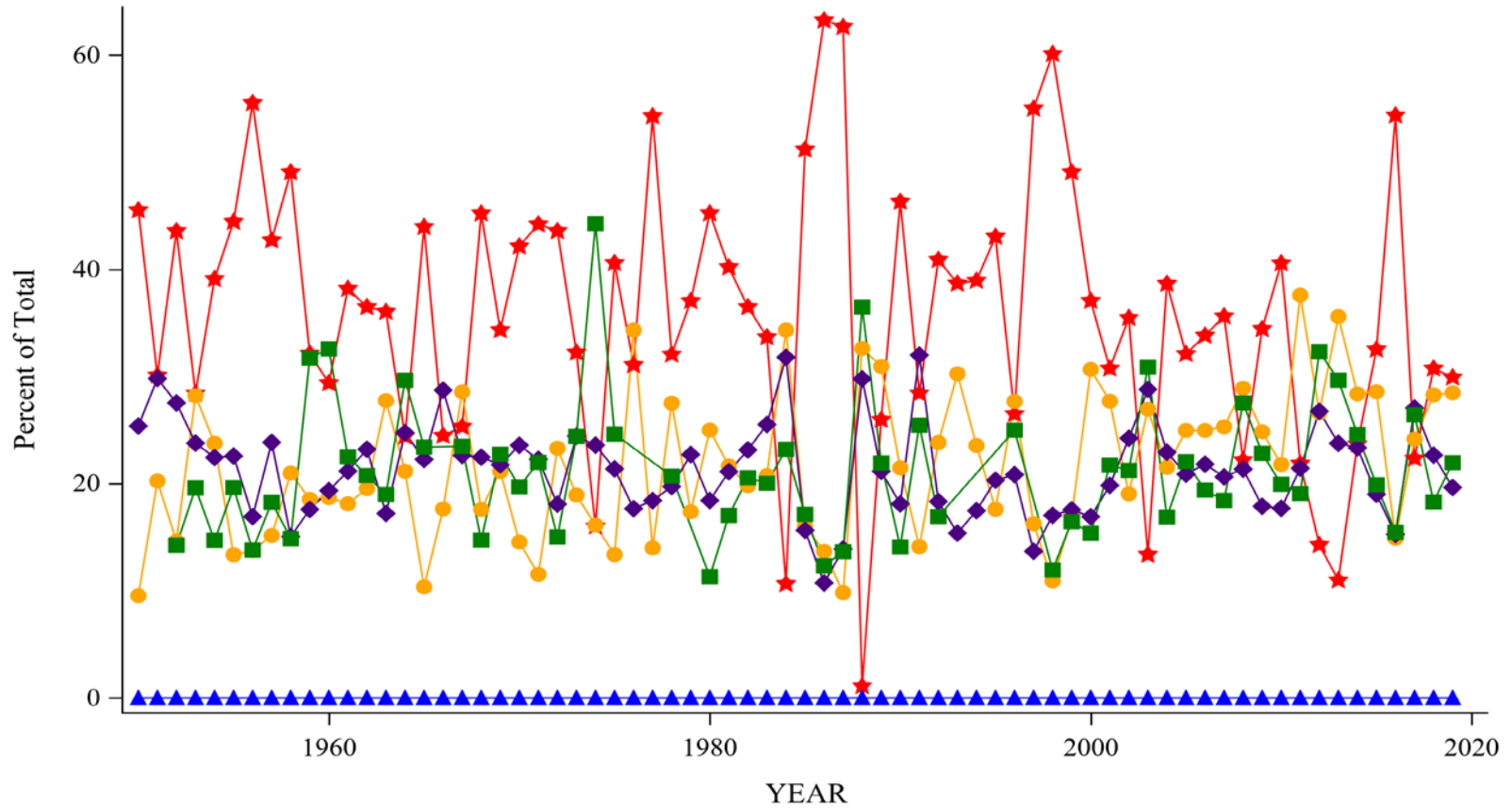
Figure 42: County Level Variance Decomposition, Production Trends



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Figure 43: County Level Variance Decomposition, Yield Trends



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