Extension
University of Missouri

Missouri Farmland Values

Individuals and businesses often need an estimate of the value of a piece of land. A properly done appraisal provides the most accurate estimate of a piece of land's value. Appraisals attempt to estimate value from comparable sales. Comparable sales should be nearby, have sold recently and have similar characteristics.

It is not always feasible to get an appraisal on a piece of land, particularly when a historical value is sought. A historical land value is often needed to calculate taxes and settle estates. When appraisals are not feasible, estimates from the U.S. Department of Agriculture (USDA) data might be an acceptable option.

USDA agricultural land values

The National Agricultural Statistics Service of the USDA collects and reports information on the market value of agricultural land and buildings. The Census of Agriculture is conducted every five years and seeks responses from every farmer. The published Censuses report the market value of *Agricultural land, including buildings*, for each county in the year the information was gathered. Table 1 provides the average market value of *Agricultural land, including buildings* by Missouri county for the last 10 Censuses of Agriculture.

The USDA updates the state average market value of *Agricultural land, including buildings* every year. This update relies on surveying a subset of farmers, select Realtors and others who have direct knowledge of land sales in each state. The published results do not have county values. The annual survey reports values for these four land classes: 1) *All Cropland*, 2) *Non-Irrigated Cropland*, 3) *Irrigated Cropland*, and 4) *Pastureland*. These land classes are not reported on a county basis in the Census of Agriculture. Table 2 provides the average market value of these agricultural land classes for the state of Missouri since 1950.

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Understanding USDA data

Understanding some characteristics of the USDA agricultural land value estimates is important for individuals and businesses wishing to use them for business purposes. From 1850 to 1996, the USDA annually reported for each state a single value estimate called *Ag land, including buildings*. Since 1997, the USDA has reported a state value by various agricultural land classes without buildings.

Every five years, in the Censuses of Agriculture, USDA reports *Ag land, including buildings*, for each county. Houses, barns, sheds and other buildings on the land are included in the reported asset value. This value merges all types of land, such as irrigated, non-irrigated and pastureland, together.

The USDA estimates are for either an entire county or the entire state. However, the value of land can vary considerably within any one county. More productive land is worth more than less productive land. Cropland is worth more than pastureland. Land adjacent to certain highways may be worth more than land farther from those highways. None of these factors are reported in the county and state estimates of land and buildings. For this reason, the estimate may not provide an acceptable estimate of the value an individual piece of land.

The reports provide a consistent record of trends in land values. Since the methodology is consistent over time, the annual changes reported are likely to reflect what happens on individual pieces of land. However, changes over time may cause the values of certain pieces of land to differ from the USDA reported average. For example, land 20 miles out of city limits may have been considered for only agricultural purposes in 1970. By 2020, that land may be much closer to city limits and people want to purchase that land for a house site. That may drive its value much higher than the state or county average.

The Census of Agriculture values are most useful for estimating specific land values because they provide county level estimates. The annual survey data of state land values by type is helpful for observing trends in land values in the years between Censuses. The reported values for various types of agricultural land in Missouri are very highly correlated (correlation coefficient of .95

to .99) with the reported value for *Ag land, including buildings*. A correlation of 1 indicates perfect correlation.

Since the county value is an average for all land in the county, it most likely reflects the value of an individual piece of land to the extent that piece of land is like the county land types. For example, if a county contains mostly cropland and the land under consideration is mostly cropland, the county value may fit well. But if the land under consideration is all pastureland, the county value will likely overvalue that particular piece of land.

Estimating historical values

When an historical estimate of value for a particular piece of land is needed, it is advisable to start with the county level data reported in the Census of Agriculture. Because county data are reported every five years, methods of estimating the value in intervening years have been developed.

If the percent change in the annual reported state value for *Ag land, including buildings* accurately reflects the change for land in each county, this percent change can be applied for years when no county level data exist. The steps below indicate how a county level estimate for land value could be obtained for any year.

Step 1: Find which Census of Agriculture immediately precedes the year for which you are interested in finding a value.

Step 2: Locate the value of ag land in the county in that Census data (see Table 1).

Step 3: Locate the values for ag land in Missouri for the years between the year of the Census and the year of interest (see Table 2).

Step 4: Determine the percent change in state land value between the two years. Percent change = (ending year value ÷ beginning year value) – 1.

Step 5: Increase the county value from step 1 by the percent change from step 4. County value in the desired year = county value in previous Census × (1 + percent increase between the desired year and the previous Census of Ag value).

For example, if you wanted to know the value of ag land in Adair County in 2010, perform the following steps.

Step 1: *The 2007 Census is the nearest Census prior to the year 2010.*

Step 2: *The value reported for Adair County in the 2007 Census of Agriculture is $1,862 (from Table 1).*

Step 3: *The Missouri state value for ag land in 2007 is $2,170 and in 2010 is $2,270 (from Table 2).*

Step 4: *The percent change is 4.6% (= 2,270 ÷ 2,170 – 1).*

Step 5: *The estimated value of land in Adair County in 2010 is $1,948 (= $1,862 × 1.046).*

Accounting for land quality differences

A more accurate estimate than the average county land value for a previous year is occasionally desired. This can occur when the land in question obviously differs from the average county land value. Perhaps proximity to a town, presence of irrigation, higher productivity land or some other characteristic makes modifying the county level value important.

The estimate of county land value can be modified to account for expected value differences by following the steps below.

Step 6: Obtain an appraisal of the market value of the land. An appraisal done at any time can be used but more recent appraisals are best. The value of recently built structures should be removed from the appraisal so that only land valuation is being considered.

Step 7: Estimate the county value of the land for the year in which the appraisal was made. This would be accomplished by Steps 1–5 above.

Step 8: Estimate the percent difference between the appraisal value and the estimated county land value. Percent change = (appraisal value ÷ county value) – 1.

Step 9: Modify the county value for the year of concern (from Step 5) by the percent difference (from Step 8). Adjusted land value = county value of land × (1+ percent difference between the appraisal value and the estimated county value).

Spreadsheet tool

The County Land Value Estimator spreadsheet (XLSX) (https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/LandValue.xlsx) was developed to accompany this guide. This tool contains the data found in tables 1 and 2 of this guide and provides a tool to estimate land values. Users can enter the county year of interest to receive estimated county values. County values can be modified to more closely approximate the value of a particular piece of land.

Table 1. Average market value (in dollars per acre) of farmland and buildings for Missouri counties.

County	1959	1964	1969	1974	1978	1982	1987	1992	1997[b]	2002	2007	2012	2017
Adair	115	118	168	299	511	635	418	454	669	1,012	1,862	2,453	2,792
Andrew	150	184	279	498	817	958	664	775	1,170	1,838	2,421	3,558	3,843
Atchison	183	221	315	548	1,004	941	680	775	1,131	1,642	2,452	4,862	4,903
Audrain	166	211	283	500	1,001	1,066	686	802	1,197	1,601	2,609	3,822	4,256
Barry	81	116	178	377	620	879	752	829	1,344	1,678	2,582	2,538	3,429
Barton	87	128	186	360	694	824	486	625	788	1,000	1,858	2,105	2,753
Bates	103	136	227	384	651	694	485	611	976	1,199	1,955	2,268	3,090
Benton	59	91	139	264	472	680	457	568	938	1,115	1,901	2,090	2,737
Bollinger	56	90	136	281	532	672	596	626	1,022	1,292	1,873	2,014	2,507
Boone	127	171	285	509	907	958	794	1,036	1,647	2,544	2,805	3,644	5,654
Buchanan	181	216	295	499	980	1,009	792	887	1,228	1,790	2,702	3,451	4,053
Butler	109	195	260	498	890	991	758	929	1,200	1,499	2,266	3,184	4,695
Caldwell	119	142	219	393	674	804	540	581	868	1,369	1,999	2,275	3,170
Callaway	95	133	194	383	762	952	624	817	1,216	1,780	2,548	3,267	3,960
Camden	34	47	91	208	487	563	474	524	807	1,254	1,858	2,176	2,208
Cape Girardeau	121	180	233	410	859	1,100	823	1,046	1,385	1,891	2,540	3,133	4,343
Carroll	142	183	262	437	795	911	648	792	971	1,295	2,114	3,134	3,580
Carter	39	66	87	176	419	538	463	540	822	1,048	1,630	1,663	1,909
Cass	152	211	357	552	931	1,091	903	1,178	1,560	1,844	2,839	3,318	3,759
Cedar	62	95	141	289	492	685	478	568	909	1,146	1,823	1,822	2,489
Chariton	133	166	257	397	786	938	585	721	1,014	1,333	1,969	2,973	3,439
Christian	107	138	220	455	686	889	882	1,259	1,792	2,387	2,785	3,124	4,027
Clark	98	138	201	366	747	774	554	603	800	1,165	1,971	2,654	3,575
Clay	278	300	487	776	1,287	1,476	1,050	1,329	1,916	3,392	2,850	4,282	4,169
Clinton	155	185	296	561	866	950	725	796	1,274	1,541	2,330	3,427	3,721
Cole	86	121	160	346	558	822	691	862	1,181	1,974	2,410	2,913	3,646
Cooper	113	139	206	340	669	729	525	707	955	1,332	2,226	2,841	3,268
Crawford	58	80	146	298	453	538	560	674	920	1,247	1,859	2,080	2,583
Dade	73	106	174	321	568	684	486	600	897	1,277	1,819	2,192	2,807
Dallas	63	83	151	303	522	707	625	675	1,159	1,396	2,223	2,326	2,583
Daviess	118	147	208	388	691	861	522	597	723	1,176	1,937	2,784	3,265
DeKalb	124	161	268	449	706	879	512	573	908	1,139	1,958	2,817	3,273
Dent	43	55	96	224	336	464	450	526	762	991	1,683	1,602	2,091
Douglas	39	53	100	244	445	578	537	595	789	1,071	1,845	1,624	2,100
Dunklin	249	426	422	590	1,112	1,273	960	1,100	1,469	1,936	2,472	3,770	5,090
Franklin	111	147	248	482	750	1,070	958	1,182	1,637	2,431	2,992	3,722	3,864
Gasconade	63	82	139	260	477	590	637	756	1,047	1,586	2,205	2,451	2,787
Gentry	109	127	196	358	657	728	522	551	796	1,156	1,869	2,636	3,098
Greene	187	231	322	586	939	1,203	1,298	1,366	2,222	3,299	3,277	3,683	4,745
Grundy	116	134	223	404	750	1,042	528	657	732	1,024	1,861	2,303	2,928
Harrison	104	126	162	323	575	707	435	496	644	951	1,837	2,494	2,768

Table 1. Average market value (in dollars per acre) of farmland and buildings for Missouri counties. (continued)

County	1959	1964	1969	1974	1978	1982	1987	1992	1997[b]	2002	2007	2012	2017
Henry	97	140	224	389	707	746	553	652	852	1,209	1,803	2,124	2,690
Hickory	47	73	135	264	416	543	504	514	701	1,082	1,562	1,941	2,108
Holt	173	239	290	543	981	1,109	716	919	1,047	1,491	2,452	3,799	4,893
Howard	104	145	212	365	709	754	558	723	1,059	1,334	2,109	2,537	3,023
Howell	50	68	124	272	481	664	528	623	986	1,372	1,734	1,883	2,144
Iron	42	68	126	275	489	582	453	585	957	1,332	1,708	1,610	2,065
Jackson	323	403	551	838	1,251	1,568	1,396	1,763	2,214	3,675	3,266	4,037	5,814
Jasper	130	171	247	441	718	861	684	821	1,234	1,494	2,210	2,337	3,221
Jefferson	114	169	293	570	859	1,176	1,022	1,441	2,029	2,635	3,080	3,407	4,200
Johnson	108	138	235	445	768	954	736	802	1,137	1,693	2,227	2,645	3,344
Knox	116	131	193	368	744	783	483	552	799	1,391	1,897	2,981	3,042
Laclede	65	78	142	301	474	637	558	710	940	1,377	1,928	2,200	2,517
Lafayette	178	217	319	620	985	1,081	835	992	1,445	1,831	2,705	4,225	4,535
Lawrence	109	146	212	440	725	906	763	873	1,306	1,777	2,467	2,562	3,198
Lewis	116	129	204	391	775	807	496	604	871	1,106	2,131	2,894	3,312
Lincoln	147	191	294	495	916	1,135	962	1,145	1,701	2,172	3,135	3,900	4,361
Linn	117	119	189	428	699	793	455	546	692	1,005	1,826	2,416	2,883
Livingston	125	152	217	404	729	892	516	793	895	1,285	2,025	2,916	3,372
Macon	86	116	158	293	602	682	466	523	684	1,072	1,792	2,477	3,194
Madison	49	77	115	229	437	535	455	619	719	973	1,710	1,840	2,099
Maries	43	56	87	216	368	498	418	474	749	1,032	1,704	1,951	1,971
Marion	146	181	249	408	753	971	606	781	1,021	1,226	2,231	3,561	3,966
McDonald	72	95	193	342	696	775	757	885	1,284	2,029	2,370	2,314	2,682
Mercer	82	91	150	292	592	614	430	550	883	5,358[c]	1,811	2,219	2,693
Miller	51	76	112	241	465	561	523	623	884	1,479	1,966	2,221	2,497
Mississippi	235	361	400	526	1,132	1,380	1,020	1,267	1,590	1,855	2,365	4,153	5,837
Moniteau	89	112	174	321	564	727	546	689	945	1,380	2,375	2,698	3,570
Monroe	111	158	220	400	844	881	567	667	913	1,183	2,264	3,125	3,559
Montgomery	124	164	260	469	749	1,001	699	900	1,200	1,639	2,850	3,453	3,771
Morgan	66	91	148	304	582	644	535	570	986	1,553	2,216	2,646	3,837
New Madrid	280	435	479	566	1,156	1,384	942	1,148	1,466	1,837	2,425	4,435	5,591
Newton	112	147	209	438	736	989	730	969	1,382	1,760	2,623	2,577	3,639
Nodaway	135	163	256	442	921	868	562	689	848	1,195	2,102	3,251	4,012
Oregon	36	50	102	238	385	547	413	569	835	1,004	1,706	1,556	1,781
Osage	56	65	104	250	402	500	480	553	945	1,400	1,938	2,047	2,415
Ozark	34	45	88	211	397	508	567	529	737	1,366	1,705	1,624	2,133
Pemiscot	323	431	481	567	1,064	1,409	937	1,059	1,376	1,772	2,161	3,618	5,235
Perry	121	130	208	341	773	866	705	801	1,081	1,487	2,175	2,673	3,273
Pettis	112	165	238	408	772	832	610	754	1,003	1,388	2,365	2,736	3,500
Phelps	57	81	136	256	396	641	546	637	884	1,519	2,065	2,301	2,636
Pike	120	166	221	424	911	925	626	796	1,180	1,618	2,368	3,461	3,516

Table 1. Average market value (in dollars per acre) of farmland and buildings for Missouri counties. (continued)

County	1959	1964	1969	1974	1978	1982	1987	1992	1997[b]	2002	2007	2012	2017
Platte	197	234	441	669	1,191	1,147	902	1,178	1,922	2,306	2,843	3,888	4,429
Polk	80	108	182	363	588	761	640	724	1,257	1,409	2,165	2,066	2,525
Pulaski	51	68	101	222	338	503	462	494	759	1,310	1,862	1,948	2,237
Putnam	69	87	135	248	492	544	367	404	618	866	1,725	2,063	2,520
Ralls	119	162	255	391	813	912	634	789	1,080	1,437	2,373	3,210	3,850
Randolph	115	149	209	355	733	897	554	604	935	1,174	2,033	2,630	3,461
Ray	148	181	280	465	843	1,006	713	886	1,285	1,490	2,200	2,730	3,516
Reynolds	38	55	101	204	411	502	369	714	605	1,048	1,424	1,463	1,599
Ripley	64	86	129	262	495	618	568	579	803	1,016	1,729	1,794	2,446
St. Charles	258	278	462	724	1,193	1,700	1,542	2,097	2,598	3,991	3,271	4,240	4,885
St. Clair	62	98	161	320	587	660	442	509	707	1,018	1,787	1,656	2,453
St. Francois	91	109	175	365	730	785	805	1,026	1,251	2,033	2,636	2,513	2,933
St. Louis	899[a]	1,033[a]	917	1,094	1,785	3,213	2,259	2,152	2,592	3,627	3,686	4,128	4,348
Ste. Genevieve	90	122	162	325	633	757	717	827	1,118	1,466	2,168	2,305	2,951
Saline	190	234	294	509	915	1,094	815	861	1,223	1,368	2,209	4,023	4,010
Schuyler	90	97	162	282	581	618	367	401	634	811	1,700	2,226	2,581
Scotland	103	131	180	356	730	742	470	615	761	1,122	1,965	2,936	3,370
Scott	176	261	345	479	1,029	1,308	834	1,088	1,347	1,745	2,585	4,077	5,087
Shannon	39	56	120	207	440	489	411	483	607	1,052	1,756	1,670	1,963
Shelby	118	142	215	369	782	812	543	611	911	1,187	2,073	3,552	3,729
Stoddard	177	287	339	482	1,058	1,322	940	1,209	1,563	2,048	2,369	4,392	5,353
Stone	77	90	191	339	602	696	578	815	1,280	1,927	2,465	2,369	2,894
Sullivan	72	89	133	290	529	635	354	440	678	814	1,566	1,858	2,338
Taney	42	63	114	252	417	487	471	613	1,098	1,728	1,902	1,961	2,235
Texas	46	63	107	231	429	538	443	585	772	1,027	1,737	1,641	2,066
Vernon	78	120	182	317	663	689	474	652	897	1,105	1,842	2,156	2,841
Warren	123	164	259	515	1,033	1,267	973	1,584	1,792	2,312	3,324	3,880	4,048
Washington	61	88	129	266	401	491	525	665	823	1,477	1,864	1,919	2,372
Wayne	45	60	103	214	421	591	453	537	786	1,034	1,706	1,527	2,350
Webster	76	96	173	364	602	701	656	805	1,219	1,722	2,613	2,612	3,102
Worth	108	118	201	292	709	611	448	542	545	916	1,635	2,254	2,844
Wright	49	66	108	290	477	592	510	654	892	1,259	1,811	1,797	2,158
Missouri average	112	150	224	396	723	856	640	774	1,084	1,508	2,179	2,791	3,385

Source: U.S. Census of Agriculture (https://www.nass.usda.gov/AgCensus/)

a. St. Louis City and County are included in 1959 and 1964; all other years are county only.

b. 1997 data have been reweighted to reflect the new methodology used in the more recent censuses.

c. This is the federally recognized value for this year, yet it is abnormally high compared to peer counties and land values in subsequent years. We recommend users instead use $1,347 (average of land values in 1997 and 2007).

Table 2. Missouri state average values for various classes of agricultural land (in dollars per acre).

Year	Missouri
1951	75
1952	85
1953	82
1954	79
1955	82
1956	87
1957	94
1958	102
1959	110
1960	115
1961	120
1962	127
1963	132
1964	145
1965	155
1966	168
1967	186
1968	200
1969	217
1970	224
1971	236
1972	261
1973	294
1974	384
1975	396
1976	456
1977	548
1978	641
1979	726
1980	902
1981	990
1982	945
1983	856
1984	875
1985	689
1986	648
1987	604
1988	640
1989	684
1990	701
1991	723
1992	734
1993	774
1994	825
1995	880
1996	950
1997	1,010
1998	1,070
1999	1,150
2000	1,230
2001	1,300
2002	1,380
2003	1,470
2004	1,560
2005	1,750
2006	1,910
2007	2,170
2008	2,300
2009	2,160
2010	2,270
2011	2,420
2012	2,710
2013	2,850
2014	3,050
2015	3,230
2016	3,220
2017	3,120
2018	3,380
2019	3,400
2020	3,400
2021	3,700
2022	4,150

Year	All cropland	Non-irrigated cropland	Irrigated cropland	Pastureland
1992	N/A	N/A	N/A	N/A
1993	N/A	N/A	N/A	N/A
1994	N/A	N/A	N/A	N/A
1995	N/A	N/A	N/A	N/A
1996	N/A	N/A	N/A	N/A
1997	1,040	1,000	1,600	660
1998	1,130	1,090	1,670	700
1999	1,220	1,180	1,820	770
2000	1,300	1,260	1,930	840
2001	1,380	1,340	2,000	910
2002	1,480	1,440	2,070	980
2003	1,580	1,540	2,150	1,050
2004	1,660	1,630	2,220	1,120
2005	1,830	1,800	2,410	1,310
2006	2,010	1,970	2,650	1,500
2007	2,330	2,300	2,800	1,730
2008	2,500	2,470	2,980	1,800
2009	2,490	2,450	2,990	1,670
2010	2,600	2,560	3,140	1,600
2011	2,790	2,750	3,320	1,610
2012	3,120	3,080	3,640	1,700
2013	3,500	3,450	4,140	1,790
2014	3,750	3,670	4,670	1,820
2015	3,680	3,570	4,950	1,880
2016	3,570	3,470	4,830	1,830
2017	3,560	3,450	4,940	1,830
2018	3,490	3,380	4,770	1,920
2019	3,490	3,350	4,770	1,980
2020	3,530	3,400	4,700	2,000
2021	3,810	3,700	4,800	2,160
2022	4,320	4,200	5,400	2,400

Source: USDA National Agricultural Statistics Service (quickstats.nass.usda.gov)

Notes: Values for all cropland, non-irrigated cropland, irrigated cropland and pastureland were not reported by the USDA prior to 1997. N/A = Not available.

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Extension
University of Missouri

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