

positive factor and 93 percent listed at least one negative factor. The respondents listed multiple factors in most cases.

There were four positive factors listed by over 10 percent of the respondents who provided at least one positive factor. The most frequently mentioned factor was low interest rates, mentioned by 24 percent of the respondents. Strong yields was the second-most frequently mentioned positive factor, being mentioned by 15 percent of the respondents. Other frequently mentioned positive factors included, land availability (14 percent), cash/credit availability (11 percent), investor demand (5 percent).

There were only two negative factors listed by more than 10 percent of the respondents who identified at least one negative factor. The most frequently mentioned negative factor affecting land values was lower commodity prices, mentioned by 42 percent of the respondents. High input prices were the second-most frequently mentioned negative factor (12 percent). Cash/credit availability and an uncertain agricultural future was mentioned by 8 and 6 percent of the respondents, respectively.

Number of Sales Compared to Previous Year

Over half, (60 percent) of the respondents reported lower sales in 2015 relative to 2014. On the other end of the spectrum, just 10 percent reported more sales and 30 percent reported the same level of sales in 2015 relative to 2014.

Land Sales by Buyer Category

Respondents were asked what percent of the land was sold to the following five categories of buyers.

- Existing farmers represented 76 percent of the sales.
- Investors represented 20 percent, of which individual investors were 15 percent.
- New farmers represented 3 percent.
- Other purchasers represented 1 percent.

Table 1. Recent changes in Iowa farmland values

Year	Value per acre	Dollar change	Percentage change
1981	\$ 2147	\$ 81	3.9
1982	1801	-346	-16.1
1983	1691	-110	-6.1
1984	1357	-334	-19.8
1985	948	-409	-30.1
1986	787	-161	-17.0
1987	875	88	11.2
1988	1054	179	20.5
1989	1139	85	8.1
1990	1214	75	6.6
1991	1219	5	0.4
1992	1249	30	2.5
1993	1275	26	2.1
1994	1356	81	6.4
1995	1455	99	7.3
1996	1682	227	15.6
1997	1837	155	9.2
1998	1801	-36	-2.0
1999	1781	-20	-1.1
2000	1857	76	4.3
2001	1926	69	3.7
2002	2083	157	8.2
2003	2275	192	9.2
2004	2629	354	15.6
2005	2914	285	10.8
2006	3204	290	10.0
2007	3908	704	22.0
2008	4468	560	14.3
2009	4371	-97	-2.2
2010	5064	693	15.9
2011	6708	1644	32.5
2012	8296	1588	23.7
2013	8716	420	5.1
2014	7943	-773	-8.9
2015	7633	-310	-3.9

Sales to existing farmers by Crop Reporting Districts ranged from 82 percent in Northwest and West Central to 55 percent in South Central.

Sales to investors were highest in South Central (30 percent). Northeast, Northwest, and Southeast reported the lowest investor activity (11 percent). Central and East Central reported slightly higher percentage of land sales to entity investors.

Respondents by Occupation

The 2015 Iowa land value survey asked a new question regarding the main occupation of the respondent. Additionally, this was the first year the

land value survey was made available online in addition to using the traditional mail copy.

In total, 514 agricultural professionals completed the survey, providing 708 county land value estimates. Of these respondents, agricultural lenders represented the largest group, accounting for 38 percent of all respondents. Farm managers (16 percent), appraisers (14 percent), and those in agricultural sales (14 percent) were the next three largest groups.

Land Quality and Corn Suitability Ratings

To gauge how each respondent defined high-, medium-, and low-quality land for their county, we asked them to provide opinions on estimated average CSR (Corn Suitability Rating) and CSR2 points for high-, medium-, and low-quality land.

Results show that agricultural professionals have adapted to CSR2. Approximately 60 percent of participants provided at least one CSR2 estimate for the corresponding land quality classes. The estimated average CSR2 statewide for high-, medium-, and low-quality land is 83, 71, and 59 points respectively, while the statewide average CSR for these three land quality classes are 79, 67, and 55, respectively.

In addition, respondents ranked high-, medium-, and low-quality land based on relative conditions in their region. For example, the average CSR2 for high quality land in the South Central district is 71, comparable to the CSR2 for low-quality land in Northwest district at 67. Reported changes from CSR to CSR2 are consistent with actual statistics from Iowa State University agronomists.

This year's survey provided estimates for distribution of quality of land purchased by buyer types. Results show that the land quality distribution by farmers and investors were not significantly different: roughly half of the land they purchased was high-quality land, followed by roughly a third of medium-quality land. Although South Central reported a higher percentage of investor demand, the quality they bought is slightly lower than what farmers bought.

Interpretation of the Survey Results

The Iowa State University Land Value Survey reported a 3.9 percent decrease to \$7,633 in Iowa farmland values from November 2014 to November 2015. This represents a modest decline in Iowa farmland values and the first time that land values have decreased two years in a row since 2000. However, despite continued downward pressures on farm income and farmland prices, current Iowa farmland values are still more than double what they were 10 years ago, 75 percent higher than the 2009 values and 14 percent higher than the 2011 values.

The 2015 survey revealed different conditions within the state. Only one crop reporting district, Northwest, reported a modest increase in land values, (0.7 percent), while North Central showed a 6.7 percent decrease. Additionally, seven counties reported higher land values in 2015 relative to 2014. This year's survey also revealed different patterns in land values across different land quality classes: while state-average values for high-quality land decreased 5 percent, there was only a mild 0.9 percent decline for low-quality farmland values. In addition, the Southwest (5.4 percent) and Northwest (2.6 percent) districts also reported an increase in low-quality land values. This is likely a combined result of robust livestock returns, strong recreational demand, and higher government payments from conservation programs such as the Conservation Reserve Program (CRP). In general, the results from the 2015 Iowa State University Land Value Survey match results from other surveys. The Federal Reserve Bank of Chicago reported Iowa land values down 1 percent from October 2014 to October 2015. The same survey reported Iowa land values decreased by 1 percent from July to October, 2015. The USDA reported Iowa farmland values down by 5.9 percent from June 2014 to June 2015. The Realtors Land Institute reported land values down 7.6 percent from September 2014 to March 2015 but only down 3.7 percent from March 2015 to September 2015.

There were several new features added to this year's survey. A few of the highlights are: an online version, in addition to the traditional mail copy, was made available. Of the 514 respondents, 287 (55 percent) completed the survey online. Second, respondents were asked to predict how the land values in their territory would change next year and five years from now. Seventy-seven percent of the participants predicted the land values in their territory would continue to fall over the next year, while the remaining 23 percent thought land values would increase or stay the same in their territory over the next year. When asked to predict land values five years from now, 48 percent predicted land values would increase or remain the same. Third, this year's survey asked about the main occupation of respondents, with agricultural lenders, appraisers, farm managers, and those in ag sales making up the bulk of the respondents. Finally, to gauge how each respondent defined high-, medium-, and low-quality land for their county, we asked for estimated average CSR (Corn Suitability Rating) and CSR2 points for all land quality classes. Results show that agricultural professionals have adapted to CSR2. About 60 percent of participants provided at least one CSR2 estimate for the corresponding land quality class.

The Iowa State University survey reports on sales in the Iowa farmland market. The percent of respondents who reported fewer sales is the second highest recorded to date at 60 percent, which is the same percentage as in 2014. Additionally, 76 percent of all farmland purchases were to existing farmers.

It is important to remember that the Iowa State University survey is an opinion survey covering the period from November 2014 to November 2015. When comparing surveys be sure to consider the period covered. This can be especially relevant in times when the land values are not exhibiting a uniform change.

An opinion survey is just that. It represents the collective opinion of the survey respondents. Most of the respondents will use actual sales to

formulate their opinions but each person can choose to weigh or discount particular sales as they deem necessary. A study led by Dr. Mike Duffy comparing the Iowa State University opinion survey and actual sales data in Iowa from 2000 to 2011 showed that differences were not statistically significant. Some years the opinion was higher and vice versa. For some counties the differences were greater in one year and less in another. So, even though the opinion survey averaged higher than the sales, the difference was not statistically significant.

Outlook for Land Values

The results of the 2015 Iowa State University Farmland Value Survey are not surprising. With the decline in corn and soybean prices, in addition to the 8.9 percent decline in farmland values in 2014, landowners and agricultural professionals familiar with farmland markets have already expected farmland values to decline this year. The 3.9 percent decline may seem less than what many people speculated, especially given the most recent prediction from USDA that U.S. net farm income would be down 38 percent from last year. However, I would argue that the 3.9 percent decline is not out of line due to a mix of factors. First, despite the sharp decline in corn and soybean prices, many farmers still have a lot of cash in hand accumulated from the golden 2000s. Second, it was widely accepted among farmers and landowners at the start of 2015 that commodity prices, farm income, and profit margins probably wouldn't improve much over the year, and arguably the farmland market has already capitalized these expectations. Therefore, the downward pressures did not cause a panic market reaction. Finally, despite the weakening agricultural exports, especially from China, the U.S. economy is still more robust than many other countries across the globe. Of particular interest to farmland markets, the livestock sector still saw strong growth, recreational demand is on the rise, and high CRP payments are boosting the values of pastureland, timberland, and low-quality cropland.

The primary reason for the drop or slowdown in land values is the drop in net farm income. Land values are determined by the income and the interest (discount) rate used. Net farm income has been at record high levels the past few years and interest rates have been at record low levels. This combination produced record high farmland values over the past decade. In August, the USDA forecast net farm income to be down 26 percent for 2013–2014 and down another 38 percent for 2014–2015, which is a direct result of the sharp decline in corn and soybean prices. The forecast net farm income for 2015 would be the lowest since 2006.

A simple regression analysis with farmland values as a function of net farm income shows a one percent decrease in income will produce approximately a one-half percent decrease in farmland values. This relationship is not exact or immediate but there is an extremely strong relationship, which indicates what will happen to land values with a change in income.

Interest rates are also an important determinant of farmland values. The Federal Reserve Board had long discussed the end of the low-interest era, but the global economic slowdown has postponed these efforts for now, and perhaps into the foreseeable future. The current 10-year Treasury bond rates averaged 2.12 percent during the first three quarters of 2015—lower than the 2.54 percent average rate during 2014. Some people feel that interest rates are more important than net income in determining farmland values; putting these arguments aside, the Federal Reserve Board will likely raise interest at a slow rate as opposed to an immediate increase.

With the decline in farm income and a possible increase in interest rates, we might see farmland values continue to recede if the forecasts for low commodity prices and the global stock recovery for grains and oilseeds are realized next year and beyond. The Iowa farmland market appears to have peaked for the foreseeable future, and we may expect to see the Iowa farmland market drifting sideways.

In the 2015 Iowa Land Value Survey, over 75 percent of all respondents said farmland values in their territory would continue to decline next year, but only six percent of all respondents said values would decrease 10 percent or more. The majority of agricultural professionals tend to think land values in their territory will either experience a modest decline of less than 5 percent or decline 5 to 10 percent next year. The predictions of land values five years from now yield a more mixed picture: 32 percent and 17 percent of respondents predicted land values would go up or stay the same, respectively, while 19 and 18 percent of respondents projected land values would decrease 5 to 10 percent or decrease more than 10 percent five years from now, respectively. Based on estimates from Iowa State University Soil Management and Land Valuation conferences, the margin of error in the forecasts of agricultural professionals is larger when projecting values for a distant future as opposed to the months ahead.

Commodity prices appear to have moved to a new plateau, and the high-profit-margin era for row crop production has ended. It appears prices will stabilize somewhere in the mid- to upper-\$3 range for corn and the upper-\$8 to lower-\$9 range for soybeans. Obviously the prices will move with supply and demand changes, however, based on current futures prices, these appear to be the likely long-term ranges. Unfortunately, the current projections show a loss at these prices. Preliminary Iowa State University cost of production estimates for 2016 indicate a loss of about \$2 per bushel for soybeans and more than \$.50 per bushel for corn with average costs and yields.

Costs of production, especially rents, have increased considerably over the past several years. Higher commodity prices led to higher incomes, which led to increases in rents. Under low to negative profit margins, farmers are trying to lower costs in a variety of ways. Rents will change with income, but they will decline slower as incomes drop. In other words, the rent tends to be sticky when facing downward pressure. How long it will take for the rents to adjust to the lower

commodity prices remains to be seen. However, until they adjust, profitable production is unlikely and land values will continue to be under downward pressure.

Iowa farmers made record income over the past several years, and a major question is what they did with that income. Some farmers appear to have saved it or paid down existing debt, but other farmers appear to have parlayed the income into more debt with additional land and new machinery and buildings, etc. There is a concern for some producers over possible financial difficulties due continually declining income and accumulation of debt from banks and other sources. It appears most farmers will be able to weather the storm as the market prices find a new equilibrium, but farmers and land owners who bet on the high commodity prices lasting and aggressively expanded or borrowed heavily will face significant problems in the months ahead.

Some of the survey respondents reported strong auction sales where existing farmers were aggressively bidding for neighboring properties or some other particularly desirable parcel. These buyers appeared to have the money and to that extent they will provide support for the land market. As the survey indicated, existing farmers still account for the majority of the land purchased in Iowa, and robust livestock returns, strong recreational demand, and high CRP payments drove the increases in land values in the Northwest and South Central districts.

Many people are concerned about a potential farmland bubble burst, or a replay of the 1920s economic depression or 1980s farm crisis. There are legitimate reasons to be cautious, especially with the slowing Chinese economy and potential rise in interest rates. However, Iowa farmland values do not appear to be in a speculative bubble that caused dramatic declines in the 1980s farmland values or the urban real estate market in the mid-2000s. In the 1970s, there wasn't

steady growth in farm income before the sudden collapse of farmland values. Farmers now have accumulated substantial income during the last decade thanks to high commodity prices, and the current farmland values don't seem to diverge too much from the economic fundamentals. There wasn't irrational buying and selling in a panic and the demand for U.S. crop and livestock products is still very strong. The downward pressures on farmland values likely will continue to play out next year and beyond, but it will more likely be a rational and modest correction as opposed to a sudden change.

It is not possible to say where the farmland values will stabilize, however, the odds of commodity prices collapsing, a sudden stoppage of the Chinese economy, interest rates rapidly increasing, and/or land values collapsing are not high. The odds are not zero, but it doesn't appear these events will occur in the foreseeable future.

A more likely scenario is that farmland values will return to more normal changes experienced over the past century. Since 1910 Iowa farmland values have averaged a 4.9 percent increase per year. Farmland values have increased 73 percent of the years, decreased 25 percent of the years and remained unchanged for 3 years between 1910 and 2015. Farmland has historically been a fairly robust investment that generates relatively stable returns, and the Iowa farmland market seems to continue drifting sideways to slightly lower.

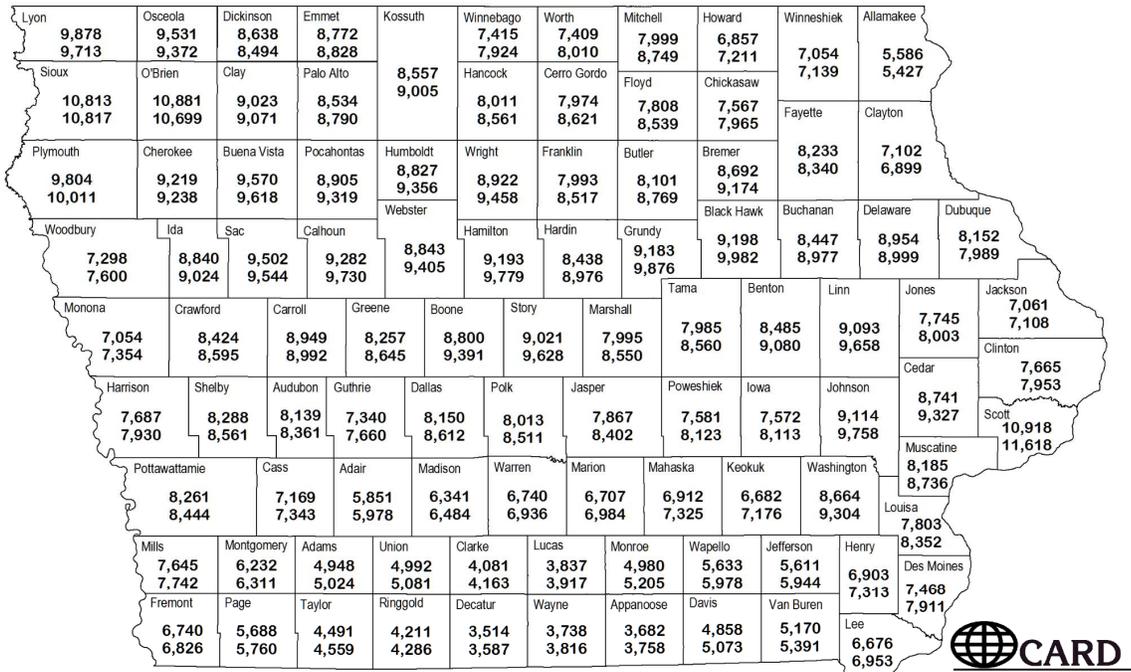
There have been three 'golden' eras for Iowa land values over the past 100 years. The first one ended in a long, drawn-out decline in land values from 1921 to 1933, the second golden era ended with a sudden collapse from 1981 to 1986. The third golden era appears to have ended with an orderly adjustment as opposed to a sudden collapse.

More details of the survey can be accessed at www.card.iastate.edu/farmland/.

Table 2. Average value per acre of Iowa farmland listed by crop reporting districts and grades of land

Year	State Avg	North-west	North Central	North-east	West Central	Central	East Central	South-west	South Central	South-east
All grades										
2001	1926	2240	2240	1950	1969	2246	2324	1511	1039	1705
2002	2083	2434	2367	2149	2101	2392	2547	1632	1211	1808
2003	2275	2683	2514	2347	2329	2652	2715	1774	1354	1979
2004	2629	3118	2913	2665	2728	3101	3054	2088	1547	2286
2005	2914	3393	3222	2963	3048	3415	3396	2350	1793	2483
2006	3204	3783	3478	3187	3410	3716	3725	2580	1927	2849
2007	3908	4699	4356	4055	4033	4529	4272	3209	2325	3463
2008	4468	5395	4950	4590	4823	5280	4743	3626	2573	3913
2009	4371	5364	4827	4464	4652	5026	4796	3559	2537	3832
2010	5064	6356	5746	5022	5466	5901	5447	4325	2690	4296
2011	6708	8338	7356	6602	7419	7781	7110	5905	3407	5705
2012	8296	11404	9560	8523	9216	9365	8420	7015	4308	6172
2013	8716	10960	9818	9161	9449	9877	9327	7531	4791	6994
2014	7943	9615	8536	8151	8424	9087	9008	6513	4475	7215
2015	7633	9685	7962	7861	8061	8505	8506	6372	4397	6892
High grade										
2001	2407	2588	2546	2439	2437	2685	2907	1947	1582	2447
2002	2576	2776	2676	2625	2583	2848	3105	2117	1931	2539
2003	2790	3040	2817	2857	2820	3121	3263	2285	2121	2783
2004	3193	3537	3265	3189	3264	3621	3659	2657	2358	3174
2005	3511	3813	3588	3522	3691	3935	4069	2925	2659	3385
2006	3835	4261	3834	3816	4072	4263	4443	3209	2663	3793
2007	4686	5313	4807	4859	4804	5261	5073	3989	3231	4625
2008	5381	6150	5514	5415	5752	6076	5674	4642	3586	5346
2009	5321	6129	5371	5349	5552	5939	5738	4539	3710	5306
2010	6109	7283	6397	6076	6585	7026	6152	5335	3892	5862
2011	8198	9649	8601	7994	8889	9332	8675	7418	5109	7721
2012	10181	12890	10765	10708	11128	11139	10201	8818	6437	8879
2013	10828	12824	11159	11423	11591	11803	11631	9591	7150	9785
2014	9854	11201	9630	10083	10275	10780	11034	8482	6663	10150
2015	9364	11229	8976	9575	9684	10087	10289	8031	6445	9536
Medium grade										
2001	1768	2057	2040	1800	1807	2013	2125	1410	1004	1571
2002	1924	2278	2142	2010	1930	2175	2358	1522	1152	1659
2003	2123	2507	2309	2221	2167	2438	2543	1659	1307	1834
2004	2457	2930	2669	2515	2564	2858	2863	1956	1492	2118
2005	2736	3199	2982	2834	2833	3165	3172	2217	1725	2347
2006	3011	3561	3223	2987	3213	3458	3501	2442	1866	2679
2007	3667	4385	4026	3777	3796	4194	4005	3047	2296	3270
2008	4195	5023	4568	4339	4537	4919	4405	3425	2527	3721
2009	4076	4977	4450	4193	4371	4615	4465	3386	2443	3535
2010	4758	5883	5300	4664	5111	5386	5445	4140	2596	4053
2011	6256	7708	6713	6290	6981	7029	6510	5553	3353	5468
2012	7773	11011	8691	7815	8619	8466	8128	6732	4219	5685
2013	8047	9918	8824	8573	8725	8930	8567	7137	4715	6605
2014	7359	8698	7874	7591	7827	8327	8388	6108	4318	6715
2015	7127	8834	7352	7460	7581	7758	7934	6038	4282	6525
Low grade										
2001	1170	1388	1423	1208	1202	1416	1404	918	623	871
2002	1322	1571	1568	1448	1332	1516	1628	996	760	997
2003	1463	1808	1682	1512	1500	1707	1811	1130	858	1063
2004	1713	2087	1976	1816	1746	2028	1998	1354	1029	1272
2005	1961	2382	2252	2032	1970	2353	2237	1614	1252	1438
2006	2195	2566	2500	2248	2293	2615	2505	1729	1373	1786
2007	2656	3210	3125	2853	2738	3004	2928	2175	1583	2131
2008	2967	3580	3408	3296	3187	3469	3214	2298	1757	2271
2009	2884	3490	3281	3177	3134	3203	3240	2286	1685	2281
2010	3357	4161	3976	3517	3542	3724	3840	2868	1794	2620
2011	4257	5196	4900	4352	4766	4848	4671	3824	1984	3335
2012	5119	7162	6303	5288	5877	5718	5013	4484	2562	3226
2013	5298	6845	6421	5670	5926	5918	5449	4592	2843	3651
2014	4878	6091	5428	5256	5173	5582	5479	3860	2808	3891
2015	4834	6252	5372	5242	5082	5292	5366	4070	2750	3797

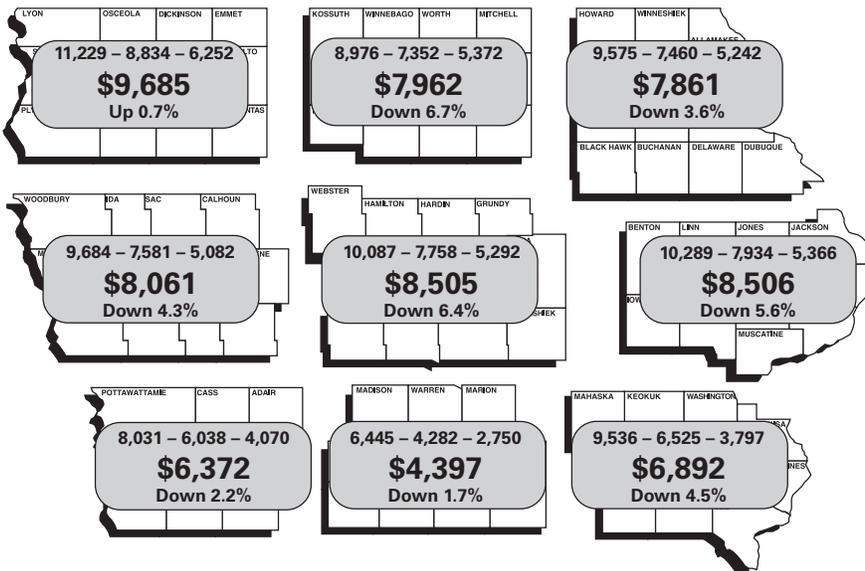
Figure 2. 2015 and 2014 Iowa land values by county



County estimates of average dollar value per acre for Iowa farmland based on U.S. Census of Agriculture estimates and the Nov. 1, 2015, Iowa Land Value Survey conducted by Center for Agricultural and Rural Development, Iowa State University and Iowa State University Extension and Outreach. The top figure is the estimated Nov. 1, 2015, value; the bottom figure is the estimated Nov. 1, 2014, value.



Figure 3. 2015 Iowa land values by crop reporting district



Estimates of average dollar value per acre for high-, medium-, and low-grade farmland (top row) on Nov. 1, 2015, by Iowa Crop Reporting District; (middle row) the Crop Reporting District average; and (bottom row) the average percentage change from Nov. 1, 2014. The estimates are based on a survey conducted by Iowa State University, Center for Agricultural and Rural Development, and Iowa State University Extension and Outreach.

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