



COOPERATIVE EXTENSION

College of Agriculture, Forestry and Life Sciences

FORECASTING COSTS & RETURNS

Scott A. Mickey

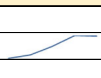
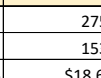




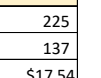
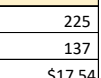
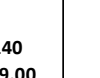
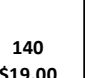
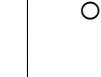
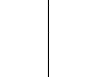


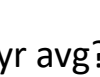
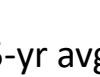
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Brown Family Farm - Crop Summary

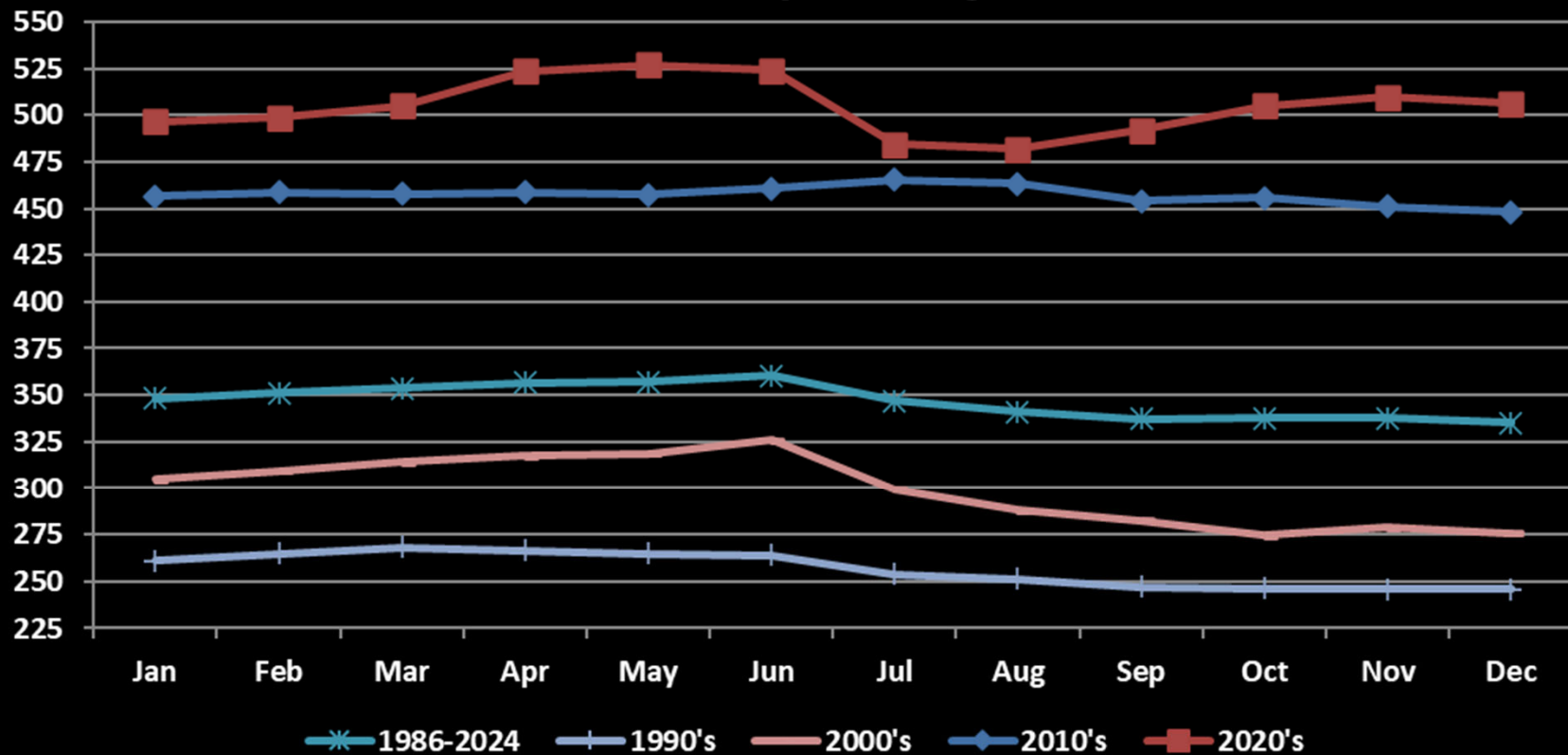
CROP SUMMARY	2020	2021	2022	2023	2024
TOTAL ACRES	4,500	4,500	4,500	4,500	4,500
IRRIGATED ACRES	2,050	1,955	1,925	2,250	2,250
DRYLAND ACRES	2,450	2,545	2,575	2,250	2,250
CORN, IRRIGATED					
ACRES	1,625	1,605	1,600	1,750	1,750
YIELD	190	211	197	204	184
PRICE	\$4.35	\$5.48	\$6.80	\$7.09	\$5.95
COTTON, DRYLAND					
ACRES	850	800	900	350	350
YIELD	950	1,125	907	950	734
PRICE	\$0.69	\$0.82	\$1.00	\$0.97	\$0.72
CUCUMBERS, IRRIGATED PICKLING					
ACRES	225	200	175	275	250
YIELD	120	125	137	153	152
PRICE	\$15.95	\$15.90	\$18.15	\$18.61	\$19.11
PEANUTS, DRYLAND					
ACRES	400	400	500	500	500
YIELD	3,800	4,200	4,063	4,000	3,812
PRICE	\$0.21	\$0.26	\$0.26	\$0.25	\$0.26
SOYBEANS, DRYLAND					
ACRES	500	500	400	675	675
YIELD	35	42	41	38	39
PRICE	\$9.96	\$13.26	\$14.28	\$13.87	\$10.50
SQUASH, IRRIGATED SUMMER					
ACRES	200	150	150	225	250
YIELD	250	265	266	222	188
PRICE	\$16.34	\$17.25	\$18.03	\$17.55	\$17.47
SWEET POTATOES, DRYLAND					
ACRES	475	550	500	430	430
YIELD	565	603	530	558	337
PRICE	\$10.50	\$9.97	\$8.60	\$6.97	\$8.49
TOBACCO, DRYLAND FLUE CURED					
ACRES	225	295	275	295	295
YIELD	1,800	2,375	2,366	2,441	2,133
PRICE	\$1.86	\$1.90	\$1.98	\$2.05	\$2.09

CROP SUMMARY	2020	2021	2022	2023	2024	Sparkline	5 year	Projected	Futures
TOTAL ACRES	4,500	4,500	4,500	4,500	4,500		4,500		1/14/2025
IRRIGATED ACRES	2,050	1,955	1,925	2,250	2,250		2,086		
DRYLAND ACRES	2,450	2,545	2,575	2,250	2,250		2,414		
CORN, IRRIGATED									CU25
ACRES	1,625	1,605	1,600	1,750	1,750		1,666		4.59
YIELD	190	211	197	204	184		197	200	0.6
PRICE	\$4.35	\$5.48	\$6.80	\$7.09	\$5.95		\$5.93	\$5.40	\$5.19
COTTON, DRYLAND									CTZ25
ACRES	850	800	900	350	350		650		0.69
YIELD	950	1,125	907	950	734		933	950	0.01
PRICE	\$0.69	\$0.82	\$1.00	\$0.97	\$0.72		\$0.84	\$0.70	\$0.70
CUCUMBERS, IRRIGATED PICKLING									
ACRES	225	200	175	275	250		225		
YIELD	120	125	137	153	152		137	140	
PRICE	\$15.95	\$15.90	\$18.15	\$18.61	\$19.11		\$17.54	\$19.00	
PEANUTS, DRYLAND									
ACRES	400	400	500	500	500		460		
YIELD	3,800	4,200	4,063	4,000	3,812		3,975	4000	
PRICE	\$0.21	\$0.26	\$0.26	\$0.25	\$0.26		\$496.00	\$520.00	
SOYBEANS, DRYLAND									SX25
ACRES	500	500	400	675	675		550		10.49
YIELD	35	42	41	38	39		39	38	0.1
PRICE	\$9.96	\$13.26	\$14.28	\$13.87	\$10.50		\$12.37	\$11.00	\$10.59
SQUASH, IRRIGATED SUMMER									
ACRES	200	150	150	225	250		195		
YIELD	250	265	266	222	188		238	250	
PRICE	\$16.34	\$17.25	\$18.03	\$17.55	\$17.47		\$17.33	\$17.50	
SWEET POTATOES, DRYLAND									
ACRES	475	550	500	430	430		477		
YIELD	565	603	530	558	337		519	565	
PRICE	\$10.50	\$9.97	\$8.60	\$6.97	\$8.49		\$8.91	\$9.00	
TOBACCO, DRYLAND FLUE CURED									
ACRES	225	295	275	295	295		277		
YIELD	1,800	2,375	2,366	2,441	2,133		2,223	2400	
PRICE	\$1.86	\$1.90	\$1.98	\$2.05	\$2.09		\$1.98	\$2.07	

Revenue = Y * P

- **Projected Yield**
 - 5-yr average
 - CI APH
 - Justify differences
- **Price**
 - 5-yr avg?
 - Projected
 - Futures-CME
 - Grains/Cotton
 - Contracted
 - Tobacco/Peanuts
 - Contact variances
 - Produce????
- **Price Seasonality**
- **Price Probability/Distribution**

Dec Corn Monthly Average Prices



Corn

Crop Year	Yield	ES/USE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Oct \$ - May \$	Oct \$ - Jun \$		
2011	146.7	6.7%	568	601	598	656	657	669	661	725	694	632	627	586	-25	-37		
2012	122.3	5.8%	569	568	559	541	523	553	752	809	763	750	740	733	227	197		
2013	160.4	13.7%	586	565	558	539	540	546	497	470	460	439	423	425	-101	-107		
2014	173.4	14.6%	451	462	485	503	485	446	387	369	339	349	373	380	-136	-96		
2015	169.3	13.1%	415	415	411	398	378	381	420	379	379	383	366	372	5	2		
2016	175.3	16.4%	385	386	383	384	397	419	352	333	334	349	345	348	-47	-69		
2017	175.4	16.8%	389	396	388	388	389	391	395	367	354	349	344	339	-39	-41		
2018	178.9	11.8%	386	396	403	410	419	386	366	373	358	368	366	374	-51	-18		
2019	167.0	13.7%	402	400	395	386	401	450	434	385	368	390	374	367	-11	-60		
2020	175.8	11.5%	400	388	371	342	334	340	340	338	366	399	416	420	65	59		
2021	177.0	10.1%	445	458	473	521	565	571	550	554	525	537	571	584	-28	-34		
2022	172.3	8.9%	561	590	649	729	734	695	598	631	677	686	668	634	-49	-9		
2023	174.9	14.7%	593	591	563	555	518	558	522	490	481	488	468	463	-30	-70		
2024	183.1	11.4%	484	466	470	470	483	458	412	397	411	416	424	430	-67	-42		
Since 1986			352	355	357	361	361	365	351	346	342	342	342	340	72%	-19	74%	-23
Super Cycle 2008-12			499	502	506	522	527	551	561	572	564	542	537	517	60%	16	60%	-8
Post-Super Cycle 2013-24			458	459	462	469	470	470	439	424	421	429	428	428	83%	-41	83%	-40

Corn (CZ) Historical Closes *

		1986-2025	2010's	2020's	2019	2020	2021	2022	2023	2024	2025
Year Ending ES/Use %					13.7%	11.5%	10.1%	8.9%	14.7%	11.4%	**
Calendar Year Only	High	8.39	8.39	7.66	4.69	4.27	6.37	7.66	6.29	4.99	4.98
	90%	5.60	6.43	6.65	4.41	4.16	5.81	7.33	5.94	4.81	4.91
	75%	4.11	5.32	5.73	4.04	3.95	5.63	6.93	5.65	4.73	4.85
	67%	3.85	4.59	5.53	4.01	3.89	5.53	6.83	5.56	4.69	4.82
	50%	2.96	4.03	4.87	3.93	3.64	5.38	6.65	5.20	4.43	4.58
	33%	2.52	3.86	4.57	3.86	3.45	5.17	6.29	4.90	4.20	4.48
	25%	2.40	3.78	4.19	3.77	3.39	4.83	6.10	4.86	4.14	4.43
	10%	2.13	3.57	3.64	3.69	3.33	4.55	5.74	4.72	4.04	4.37
	Low	1.51	3.16	3.20	3.54	3.20	4.30	5.48	4.50	3.87	4.29
	67-33 Spread		1.32	0.74	0.96	0.15	0.44	0.36	0.54	0.65	0.49

* Crop Year closes only (I.E. 2020 column represents CZ20 Closes from January 1, 2020 thru December 14, 2020)

** 2025 Column includes data thru January 2, 2024 thru December 31, 2024



	Cotton		Corn		Soybean		Tobacco		Swt Potatoe		Peanuts		Cucumbers		Squash	
			Irr.				Flue Cured						Irr.		Irr.	
Acres	400		1,600		800		275		400		500		275		250	
Yield per acre	950	lb	200	bu	38	bu	2,400	lb	565	bu	4,000	lb	140	cwt	250	bu
Operating Expenses/Acre																
Seed	99.18		104.00		50.00		240.00		246.00		130.50		70.00		65.00	
Fertilizer	170.90		254.30		88.70		201.64		305.00		92.32		280.00		311.00	
C. Chemicals	78.20		73.96		62.89		535.03		207.00		325.92		134.00		138.00	
Crop insur.	7.28		8.75		4.70		120.00		-		7.15		-		-	
Drying fuel	-		40.26		1.34		593.00		300.00		25.74		-		-	
Irrig energy	-		54.00		-		-		-		-		186.81		171.72	
C. Supplies	-		-		-		7.50		-		-		-		30.00	
C. Cust hire	83.00		10.00		10.00		10.00		-		21.40		-		-	
C. Labor	9.58		6.90		8.16		1500.00		2503.00		20.51		870.00		1075.00	
C. Hauling	-		73.50		12.25		75.00		-		12.00		-		-	
C. Marketing	-		-		-		-		-		-		8.50		1145.00	
Storage	-		9.55		4.77		95.48		95.48		-		-		-	
Supplies	8.52		8.52		4.26		170.31		212.88		17.03		8.52		17.03	
Fuel & oil	7.07		7.07		7.07		222.83		353.70		14.15		7.07		10.61	
Repairs	21.46		26.83		26.83		139.51		214.63		64.39		26.83		48.29	
Labor	44.30		44.30		44.30		177.18		177.18		88.59		44.30		44.30	
Land rent	61.44		61.44		61.44		61.44		61.44		61.44		61.44		61.44	
Pers prop tx	11.74		11.74		11.74		46.98		46.98		23.49		11.74		11.74	
Farm insur.	17.45		17.45		17.45		69.80		69.80		34.90		17.45		17.45	
Utilities	14.19		14.19		14.19		70.97		56.77		28.39		14.19		14.19	
Consultants	9.76		9.76		-		9.76		9.76		9.76		9.76		9.76	
Dues & fees	<u>23.26</u>		<u>23.26</u>		<u>11.63</u>		<u>23.26</u>		<u>23.26</u>		<u>23.26</u>		<u>23.26</u>		<u>23.26</u>	
Total operating	667.33		859.78		441.72		4,369.69		4,882.88		1,000.94		1,773.87		3,193.79	
Projected Price	\$0.72		\$5.40		\$11.00		\$2.07		\$9.00		\$0.26		\$19.00		\$17.50	
Per Unit Cost	\$0.70		\$4.30		\$11.62		\$1.82		\$8.64		\$0.25		\$12.67		\$12.78	
EBITDA / Revenue	2%		20%		-6%		12%		4%		4%		33%		27%	

	Cotton		Corn		Soybean		Tobacco		Swt Potatoe		Peanuts		Cucumbers		Squash	
			Irr.				Flue Cured						Irr.		Irr.	
Acres	400		1,600		800		275		400		500		275		250	
Yield per acre	950	lb	200	bu	38	bu	2,400	lb	565	bu	4,000	lb	140	cwt	250	bu
Revenue	\$684		\$1,080		\$418		\$4,968		\$5,085		\$1,040		\$2,660		\$4,375	
Operating	<u>-\$667</u>		<u>-\$860</u>		<u>-\$442</u>		<u>-\$4,370</u>		<u>-\$4,883</u>		<u>-\$1,001</u>		<u>-\$1,774</u>		<u>-\$3,194</u>	
EBITDA	\$17		\$220		-\$24		\$598		\$202		\$39		\$886		\$1,181	
EBITDA Efficiency	2%		20%		-6%		12%		4%		4%		33%		27%	
Crop Insurance																
Type	RP		RP		RP		YP		NAP?		RP		NAP?		NAP?	
Yield	950		200		38		2,400		565		4,000		140		250	
Price	\$0.70		\$4.40		\$9.84		\$2.07		\$4.50		\$0.25		\$9.50		\$8.75	
Coverage	75%		60%		75%		75%		50%		75%		50%		50%	
Guarantee	\$499		\$528		\$280		\$3,726		\$1,271		\$750		\$665		\$1,094	
Guarantee/Operating	75%		61%		63%		85%		26%		75%		37%		34%	

Table 1. Estimated Economic Assistance Payment Rates

Crop	2024 MYA Price ¹	Yield ²	2024 Production Cost ³	Economic Gain/Loss ⁴	26% of Economic Loss	Statutory Reference Price	2024 Avg PLC Yield ⁵	Minimum Payment Rate ⁶	Estimated Payment Rate ⁷
Corn	4.10	174.5	879.10	(163.49)	42.51	3.70	143.1	42.35	\$ 42.51
Soybeans	10.20	50.2	625.29	(113.45)	29.50	8.40	40.9	27.46	\$ 29.50
Wheat	5.60	48.2	388.19	(118.05)	30.69	5.50	41.8	18.39	\$ 30.69
Cotton	0.660	846.9	894.56	(335.61)	87.26	0.370	1,828	54.11	\$ 87.26
Rice	0.156	7,534	1,314.84	(139.60)	36.30	0.140	6,207	69.52	\$ 69.52
Sorghum	4.10	66.7	437.14	(163.75)	42.58	3.95	63.8	20.17	\$ 42.58
Oats	3.40	66.4	524.48	(298.69)	77.66	2.40	52.1	10.01	\$ 77.66
Barley	6.60	73.4	472.01	12.10	n/a	4.95	55.0	21.76	\$ 21.76
Peanuts	0.262	3,891	1,184.95	(166.45)	43.28	0.268	3,566	76.30	\$ 76.30

¹Projections for the 2024 MYA price are taken from the December 2024 WASDE for all crops but peanuts, the price estimate for peanuts is the simple average of the monthly peanut prices available for the 2024 marketing year from NASS; all prices in \$/bushel except for cotton and rice which are \$/lb

²Yields are 10-year averages (2015 to 2024) from NASS, average cotton yield is for upland cotton

³Cost of production (\$/acre) forecasts for major field crops from ERS-USDA:

<https://www.ers.usda.gov/data-products/commodity-costs-and-returns/>

Payments will be made on payment acres which are defined as planted acres and 50% of prevent plant acres for 2024. For example, a farm with 1,100 payment acres, 600 of which are corn and 500 of which are soybeans, will receive \$40,253 in economic assistance payments. \$25,504 will come from corn (\$42.51 per acre x 600 acres) and \$14,749 from soybeans (\$29.50 per acre x 500 acres).

Payment limits, independent of payment limits associated with other programs, will be applied per person or legal entity based on the amount of income coming from farming. If less than 75% of Adjusted Gross Income (AGI) for the 2020-2022 tax years comes from agriculture, the payment limit will be \$125,000. If more than 75% of AGI comes from farming, the payment limit is \$250,000.

