Marketing Class

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TITI.I.F

DATE FEBRUARY 29TH, 2024

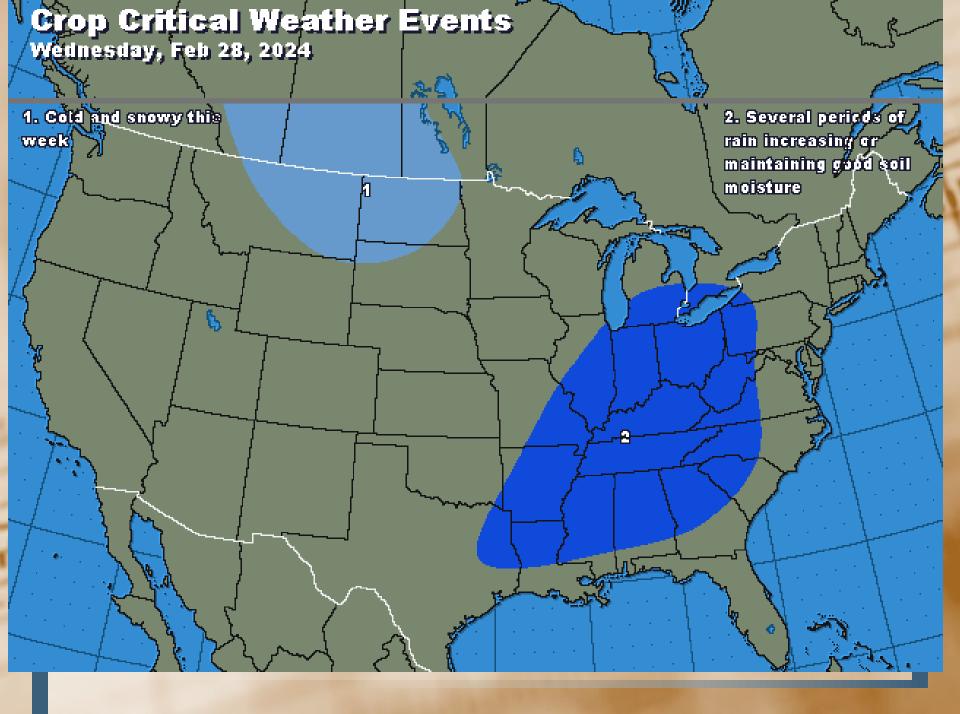


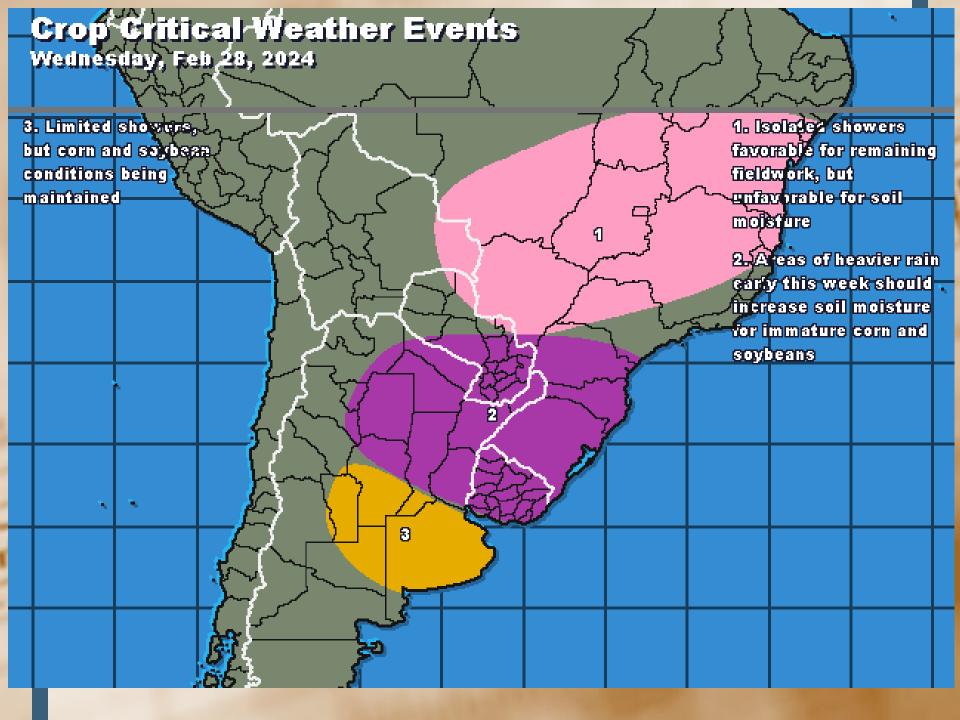


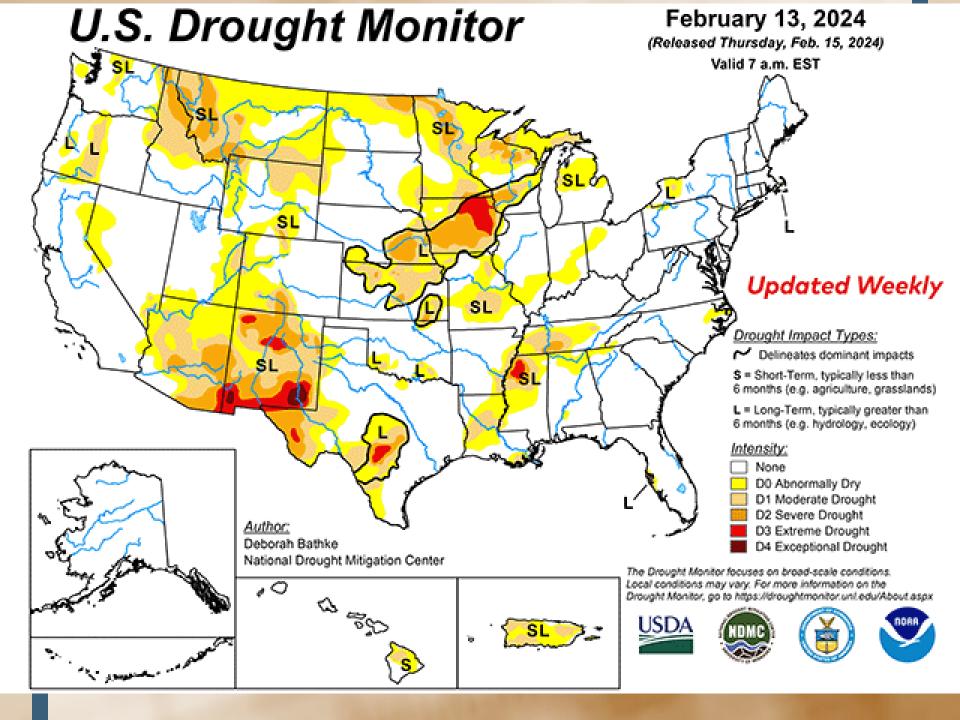


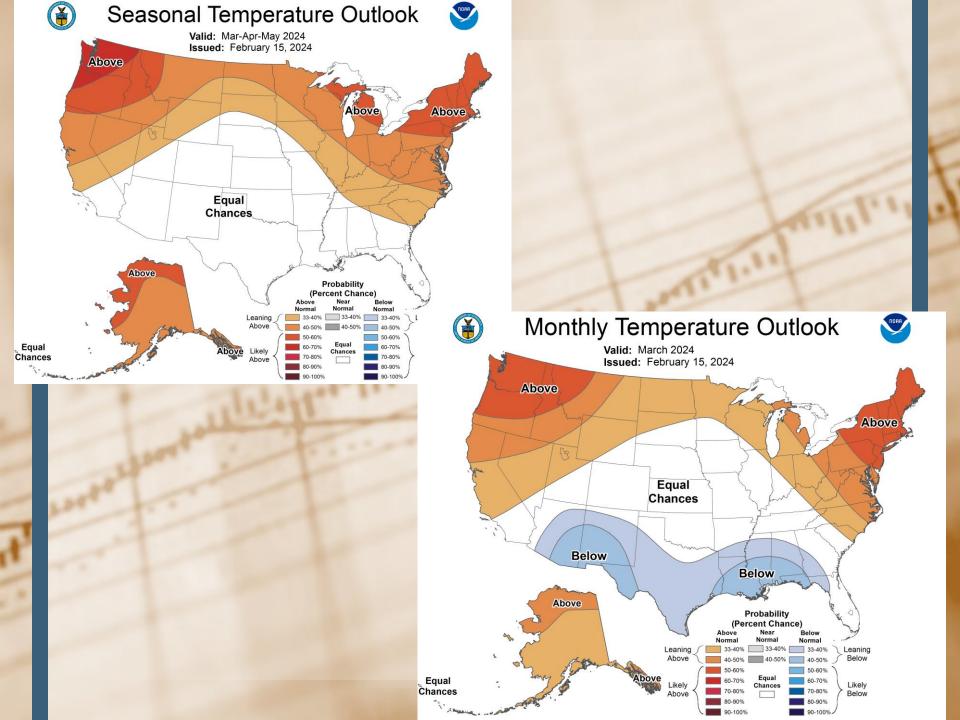
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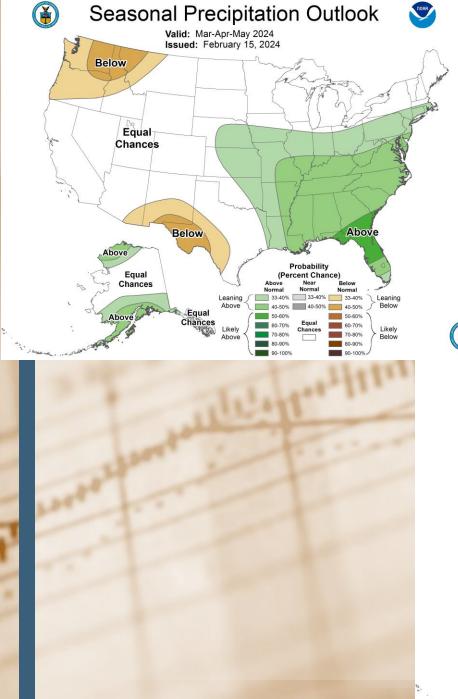
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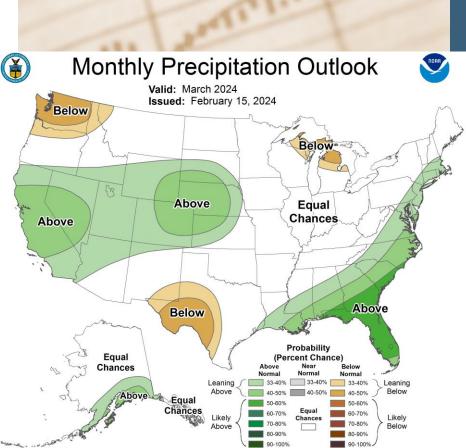


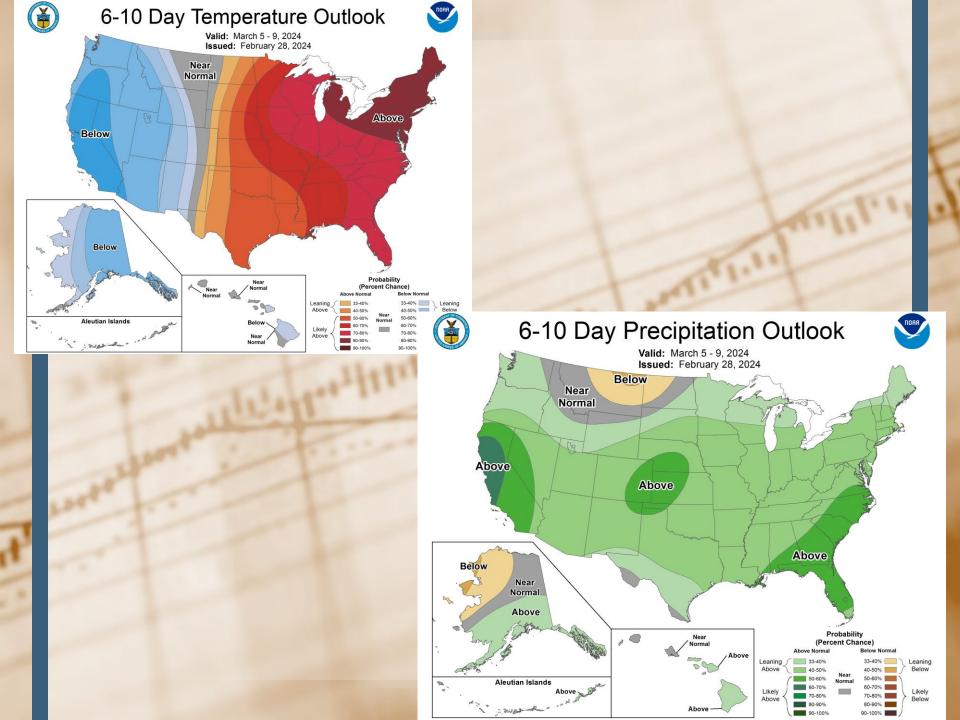


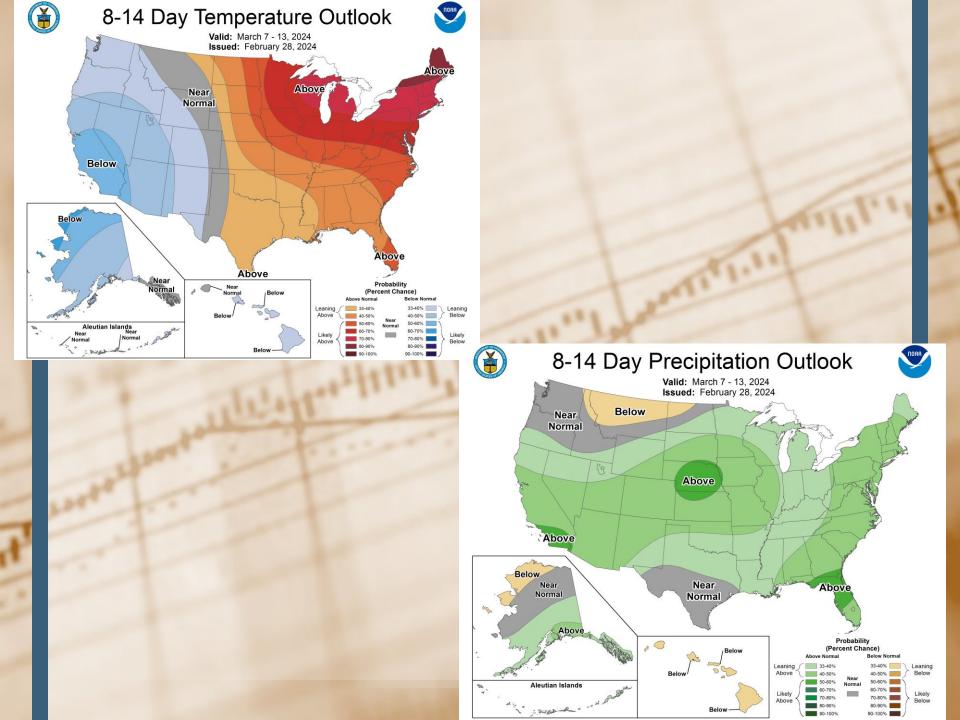












Cost of Capital-Corn- March Futures-\$4.13, July Futures-\$4.40 (+\$0.27)

Jan	Feb	Mar	Apr	May	<mark>Jun</mark>	Jul	Aug	Sep	Oct	Nov	Dec
	4.00	4.00	4.04	4.08	<mark>4.05</mark>	4.10	4.15	4.23	4.23	4.28	4.33
	8.50%	8.50%	8.50%	8.50%	<mark>8.50%</mark>	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%
		1	2	3	<mark>4</mark>	5	6	5 7	8	9	10
		4.03	4.07	4.10	<mark>4.13</mark>	4.17	4.20	4.23	4.27	4.30	4.33
	Jan	4.00	4.00 4.00 8.50% 8.50% 1	4.00 4.00 4.04 8.50% 8.50% 8.50% 1 2	4.00 4.00 4.04 4.08 8.50% 8.50% 8.50% 8.50% 1 2 3	4.00 4.00 4.04 4.08 4.05 8.50% 8.50% 8.50% 8.50% 8.50% 1 2 3 4	4.00 4.00 4.04 4.08 4.05 4.10 8.50% 8.50% 8.50% 8.50% 8.50% 8.50% 1 2 3 4 5	4.00 4.00 4.04 4.08 4.05 4.10 4.15 8.50% 8.50% 8.50% 8.50% 8.50% 8.50% 8.50% 1 2 3 4 5 6	4.00 4.00 4.04 4.08 4.05 4.10 4.15 4.23 8.50% 8.50% 8.50% 8.50% 8.50% 8.50% 8.50% 8.50% 1 2 3 4 5 6 7	4.00 4.00 4.04 4.08 4.05 4.10 4.15 4.23 4.23 8.50%	4.00 4.00 4.04 4.08 4.05 4.10 4.15 4.23 4.23 4.28 8.50%

- General: Current General Market Movers
- Inflation data coming out today 2/29/2024
- Watch for basis movement on months, most have switched away from March to May, but some may switch to July if worried about volatility
- Planting decisions are finalizing for most farms-acreage switch-see 2024 plans
- Wild Weather-will it last into spring/summer (Fires TX, tornados near Chicago IL, Detroit MI in Feb)-see attached US Warm summer document

Cash Prices for Old Crop and New Crop-Marketing Impact Factors

- <u>Corn:</u>
- More technical buying and short covering at month end-still near 3year lows from Friday
- John Deere low is usually printed end of February or early March-is this a year for that
- <u>2024 Corn Bean Ratio-2.45 to 1</u>=support for Corn (long term is 2.41 to 1), narrowing from 2.48 last meeting
- Mar support at \$4.25 with resistance at \$4.53

Cash Prices for Old Crop and New Crop-Marketing Impact Factors

- Soybeans:
- Mostly following corn market for now
- Crush report Friday March 1, 2024expecting largest Jan crush in history.
- Mar support \$11.45 and resistance at \$12.90

Cash Prices for Old Crop and New Crop-Marketing Impact Factors

- Wheat:
- Technical maneuvering yesterday.
- Sluggish US exports, large global stocks and strong overseas competition.
- Wheat exiting dormancy in S Plains-Fires, other concerns
- <u>2024 Wheat/Corn Ratio</u> is 1.44 to 1 (typical is 1.7 to 1) narrowing from last meeting at 1.46
- Mar support at \$6.65 and resistance at \$7.35

2023 Marketing Comparison-using unpriced grain at current futures prices

- Marketing Group-Corn-\$5.04, Soybeans \$12.72, Wheat \$7.95
- Martinson-Corn-\$4.62, Soybeans-\$11.96, Wheat-\$6.52
- Money Farm-Corn-\$4.86, Soybeans-\$12.66, Wheat-\$7.50
- Usset-Corn-\$5.17, Soybeans-\$13.47, Wheat-\$8.54

2024 Marketing Comparison-using unpriced grain at current futures prices

- Marketing Group-Corn-\$4.88, Soybeans \$11.94, Wheat \$6.68
- Martinson-Corn-\$4.63, Soybeans-\$11.35, Wheat-\$6.68
- Money Farm-Corn-\$4.71, Soybeans-\$11.52, Wheat-\$6.68
- Usset-Corn-\$4.63, Soybeans-\$11.35, Wheat-\$6.68

E	ELEC. CO	RN (@	C) [10]		EL	EC. SOYB	EANS	(@S) [10]	ELEC. WHEAT (@W) [10]					
Month	Last	Chg	High	Low	Month	Last	Chg	High	Low	Month	Last	Chg	High	Low
Mar-24	413'2s	5'0	414'6	406'4	Mar-24	1134'0s	2'6	1144'4	1124'6	Mar-24	571'0s	-15'0	588'0	569'6
May-24	428'4s	5'0	430'4	421'6	May-24	1145'2s	4'4	1151'4	1134'0	May-24	574'6s	-9'4	585'0	571'4
Jul-24	440'2s	4'2	442'0	434'2	Jul-24	1155'6s	4'2	1161'0	1144'6	Jul-24	578'4s	-7'6	586'6	575'2
Sep-24	450'0s				Aug-24	1152'0s	4'2	1158'0	1142'2	Sep-24	586'6s	-6'2	593'2	583'2
Dec-24	463'2s				Sep-24	1141'4s	5'2	1146'4	1132'2	Dec-24	601'2s	-5'4	607'0	597'4
Mar-25	475'6s				Nov-24	1135'0s	5'2	1139'4	1125'0	Mar-25	615'2s	-4'6	618'0	611'4
May-25	482'0s				Jan-25	1144'2s	4'4	1148'6	1135'0	May-25	624'0s	-3'6	626'2	620'2
Jul-25	484'6s	1'6	486'0	481'0	Mar-25	1143'6s	3'6	1147'6	1135'4	Jul-25	625'0s	-3'2		621'0
ELE	CTRONIC	OATS	(@O) [10]	ELECTRO	NIC SOYB		IEAL (@	SM) [10]	ELECTRO	DNIC SOY		OIL (@B	<mark>O)</mark> [10]
Month	Last	Chg	High	Low	Month	Last	Chg	High	Low	Month	Last	Chg	High	Low
Mar-24	375'0s				Mar-24	331.3s			328.0	Mar-24	44.66s	-0.25	45.11	44.33
May-24	368'4s				May-24	327.5s			324.4	May-24	45.19s	-0.34	45.74	44.90
Jul-24	365'0s			362'0	Jul-24	330.8s			327.8	Jul-24	45.58s	-0.36	46.13	45.34
Sep-24	364'2s				Aug-24	332.4s			329.5	Aug-24	45.48s	-0.33	46.01	45.24
Dec-24	354'2s				Sep-24	333.5s			330.7	Sep-24	45.29s	-0.29	45.72	45.05
Mar-25	343'6s				Oct-24	333.7s			330.8	Oct-24	45.06s	-0.23	45.38	44.79
May-25	349'6s				Dec-24	337.0s			333.9	Dec-24	45.05s	-0.21	45.38	44.74
Jul-25	354'4s	-0'4			Jan-25	338.4s			335.7	Jan-25	45.13s	-0.20	45.39	44.83
ELECTR	ONIC ROI	JGH R		RR) [10]		C. HRW W	HEAT (@KW) [1	0]	ELEC	C. HRS WH	IEAT (@	@MW) [1	0]
Month	Last	Chg	High	Low	Month	Last	Chg	High	Low	Month	Last	Chg	High	Low
Mar-24	17.940s	-0.045	18.065	17.875	Mar-24	595'4s	2'0	600'4	580'2	Mar-24	651'6s	-7'0	670'0	647'2
May-24	18.375s				May-24	581'0s			573'2	May-24	656'0s	-6'2	663'4	653'6
Jul-24	18.415s				Jul-24	570'2s			565'0	Jul-24	660'6s	-5'6	667'0	658'6
Sep-24			14.480	14.280	Sep-24	579'6s			575'0	Sep-24	667'4s	-6'0	674'0	666'0
Nov-24	14.470s				Dec-24	596'6s	-5'4	602'0	592'2	Dec-24	680'4s	-6'6	684'2	679'4
Jan-25	14.590s				ELEC	TRONIC C	ANOLA	A (@RS)	[10]	Mar-25	693'2s	-6'2	695'2	694'2
Mar-25	14.585s	0.200			Month	Last	Chg	High	Low	ELECTRO	NIC MILLI	NG WH	IEAT (@	WA) [0]
ELEC.	TRONIC E	BARLE	Y (@BV	V) [0]	Mar-24	577.2s	0.1	-	571.5	Month	Last	Chg	High	Low
Month	Last	Chg	High	Low	May-24	591.0s	-0.1	594.4	587.0					
					Jul-24	598.2s	-0.4		593.7					
					Nov-24	605.0s	-0.3		600.2					
					Jan-25	609.9s		611.7	608.2					
						ONIC DUR								
					Month	Last	Chg	High	Low					

Quotes generated on: Wed, Feb 28, 2024 2:08 PM CST *Quotes are in market time

LOCAL CASH GRAIN PRICES														
	Northland College-http://www.northlandfbm-moorhead.com/													
						Josh Tjosaas 2								
	2/28	8/2024 2:09	p.m.	2/2	6/2024 8:14	a.m.	2/19	/2024 7:14 a	ı.m.	2/12	/2024 7:35	a.m.		
	2023 Crop	2023 Crop	2024 Crop	2023 Crop	2023 Crop	<mark>2024 Crop</mark>	2023 Crop	2023 Crop	<mark>2024 Crop</mark>	2023 Crop	2023 Crop	2024 Crop		
WHEAT:	<u>Mar 24-Feb</u> Del	<u>Mar 24-Mar</u> Del	<u>Sept 24-Aug</u> Del	<u>Mar 24-Feb</u> Del	<u>Mar 24-Mar</u> Del	<u>Sept 24-Aug</u> Del	<u>Mar 24-Feb</u> Del	<u>Mar 24-Mar</u> Del	<u>Sept 24-Aug</u> Del	<u>Mar 24-Feb</u> Del	<u>Mar 24-Mar</u> Del	<u>Sept 24-Aug</u> Del		
Georgetown	6.29			6.16			6.32			6.62				
Maple River	5.97	5.97	<mark>5.98</mark>	5.84	5.84	<mark>5.87</mark>	6.00	6.00	<mark>5.97</mark>	6.30	6.30	<mark>6.22</mark>		
Protein	+.03*1/5			+.03*1/5			+.03*1/5			+.03*1/5				
GFE	06*1/5			06*1/5			06*1/5			06*1/5				
Basis:Gtwn	-0.23			-0.23			-0.23			-0.23				
Breck-	5.92-0.60	5.92-0.60	<mark>5.97-0.70</mark>	5.78-0.60	5.78-0.60	<mark>5.86-0.70</mark>	5.95-0.60	5.95-0.60	<mark>5.97-0.70</mark>	6.24-0.60	6.24-0.60	6.22-0.70		
Felton-My	6.39-0.17	6.39-0.17	<mark>6.05-0.62</mark>	6.26-0.17	6.26-0.17	<mark>5.94-0.62</mark>	6.32-0.22	6.32-0.22	<mark>6.05-0.62</mark>	6.62-0.22	6.62-0.22	<mark>6.30-0.62</mark>		
MRG	-0.55	-0.55	<mark>-0.70</mark>	-0.55	-0.55	<mark>-0.70</mark>	-0.55	-0.55	<mark>-0.70</mark>	-0.55	-0.55	<mark>-0.70</mark>		
SOYBEANS:	<u>Mar 24-Feb</u> Del	<u>Mar 24-Mar</u> Del	Oct 24-Nov Del	<u>Mar 24-Feb</u> Del	<u>Mar 24-Mar</u> Del	<u>Oct 24-Nov</u> Del	<u>Mar 24-Feb</u> Del	<u>Mar 24-Mar</u> Del	Oct 24-Nov Del	<u>Mar 24-Feb</u> Del	<u>Mar 24-Mar</u> Del	Oct 24-Nov Del		
Georgetown	10.47			10.48			10.85			11.07				
Maple River	10.31	10.31	<mark>10.55</mark>	10.32	10.32	10.51	10.74	10.74	<mark>10.69</mark>	11.01	10.96	10.91		
Basis: Gtwn	-0.87			-0.87			-0.87			-0.87				
Breck-My	10.60-0.85	10.60-0.85	10.60-0.75	10.59-0.85	10.59-0.85	<mark>10.56-0.75</mark>	10.91- 0.85My	10.91- 0.85My	<mark>10.73-0.75</mark>	11.14-0.80	11.14-0.80	10.96-0.75		
Felton-My	10.33-1.12	10.33-1.12	10.48-0.87	10.32-1.12	10.32-1.12	10.43-0.87	11.00-0.72	11.00-0.72	10.61-0.87	11.21-0.72	11.21-0.72	10.84-0.87		
MRG	-1.03	-1.03	<mark>-0.80</mark>	-1.03	-1.03	<mark>-0.80</mark>	-0.98	-0.98	<mark>-0.80</mark>	-0.93	-0.98	<mark>-0.80</mark>		
CORN:	<u>Mar 24-</u> Feb Del	<u>Mar 24-</u> Mar Del	<mark>Dec 24-Dec</mark> <mark>Del</mark>	<u>Mar 24-Feb</u> Del	<u>Mar 24-</u> Mar Del	Dec 24-Dec Del	<u>Mar 24-Feb</u> <u>Del</u>	<u>Mar 24-</u> Mar Del	<mark>Dec 24-Dec</mark> <mark>Del</mark>	<u>Mar 24-</u> Feb Del	<u>Mar 24-</u> Mar Del	<mark>Dec 24-Dec</mark> Del		
Georgetown	3.54			3.38			3.58			3.73				
Cargill	4.00	4.00	<mark>4.33</mark>	3.76	3.76	<mark>4.16</mark>	3.92	3.92	<mark>4.29</mark>	4.02	4.07	<mark>4.41</mark>		
Basis-Gtwn	-0.59			-0.59			-0.59			-0.59				
Cargill	-0.13	-0.13	<mark>-0.30</mark>	-0.20	-0.20	<mark>-0.30</mark>	-0.25	-0.25	<mark>-0.30</mark>	-0.35	-0.30	-0.30		
Felton-My	3.62-0.62	3.62-0.62	<mark>3.96-0.67</mark>	3.48-0.62	3.48-0.62	<mark>3.79-0.67</mark>	3.65-0.52	3.65-0.52	<mark>3.92-0.67</mark>	3.80-0.52	3.80-0.52	<mark>4.03-0.67</mark>		
MRG	3.51 -0.62	3.51 -0.62	<mark>3.96-0.67</mark>	3.35 -0.62	3.35 -0.62	<mark>3.79-0.67</mark>	3.55 -0.62	3.55 -0.62	<mark>3.92-0.67</mark>	3.71 -0.62	3.71 -0.62	<mark>4.04-0.67</mark>		
Loan Rates					Commod	lity Int. Rate: 5	5.750% Febru	ary 1, 2024 F	arm Store Lo	oan				

	2023	2023	2023
Crop	Clay	Norman	Wilkin
Vheat	3.77	3.76	3.78
Corn	2.06	2.03	2.04
Soybeans	5.97	5.93	5.99

Commodity Int. R	ate: 5.750% Feb	oruary 1, 2024 F	arm Store Loan
Annual Interest	Length of	Annual	Length of
<u>Rate</u>	<u>Loan Term</u>	Interest Rate	<u>Loan Term</u>
4.125%	3 years	4.000%	10 years
3.875%	5 years	4.000%	12 years
4.000%	7 years		

MARKETING NEWSLETTER COMPARISONS

Northland College–Josh Tjosaas and Ron Dvergsten, Instructors

2-29-2024	WHEAT	SOYBEANS	CORN	OTHER
Pro Farmer:	 23: 70% sold for cash sellers and 70% sold for HTC, 0% FO 24: 20% sold for cash sellers and 20% sold for HTC, 0% FO Trend is steady. 	23: 50% Cash, 55% Hedgers/0%FO 24: 10% Sold Cash, 10% sold HTC Trend is lower.	23: 35% Cash, 50%/50% Hedgers/FO 24: No recommendation yet Trend is lower.	Cattle: No Sales Trend is higher.
Money Farm:	23: 30% Sold at \$9.77	23: 55% Cash/Futures at \$13.75, 0% GTC 24: 10% Cash/Futures at \$13.00	23: 45% Cash/Futures at \$5.76, 0% GTC 24: 10% Cash/Futures at \$5.40	Allison Noll writes this daily newsletter.
Martinson Ag:	22: 40% Sold at \$10.16	22: 85% Sold at \$14.39 23: 25% Sold at 13.80 Futures	22: 85% Sold \$5.87 23: 25% Sold at 6.07 Futures	Randy Martinson writes this daily newsletter.
Roach Ag:				
Mhd Mkt Group:	23: 96% Sold at \$7.71, Final Target \$7.25+ Cash 24: Target \$7.50+Futures or \$7.00 cash, possibly adjust acres at planting	23: 100% Sold at \$12.12 Cash 24:57% Sold at \$12.38 Nov 24, Target \$12.40 Futures	23: 89% Sold at \$4.65 cash Final Target \$4.25 cash 24: 29% sold at \$5.48 Dec 24, Target \$5.00 Futures	
Usset, U of MN:	<u>Updated 8/25/2023</u> 23: 75% Sold at \$8.91 Sept 23, Post harvest sale of 7,500 bu at \$7.42	Updated 10/13/2023 23: 63% sold, lifted hedge, so remaining 27% is open	<u>Updated 10/13/2023</u> 23: 50% sold at \$5.20	You can check out Ed Usset's plans at https://www.cffm.umn.edu/grain-marketing- plans/
Terms:	CBT-Chicago Board of Trade	OC–Old Crop	P–Put Option	FC–Forward Contract
	MGE-Minneapolis Grain Exchange	NC–New Crop	C–Call Option	H-Hedge
	KC-Kansas City Board of Trade	OTM-Out-of-the-Money	ATM-At-the-Money	F/O-Futures/Options
NEXT USDA CROF	PREPORT: WASDE Report M	arch 8 th , 2024 Bold: indicate	es change from last week.	

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or options is substantial and each investor and/or trader must consider whether this is a suitable investment. By accepting this communication, you agree that you are capable of making independent trading decisions, and agree that you are not, and will not,

rely solely on this communication in making trading decisions."

2023 Base Line Prices for Wheat, Soybeans and Corn

Local price (forward contract) quoted at AGV Barnesville, MN (Wheat & Soybeans) and Cargill (Wahpeton Corn Plant) for 2022 grain on the second Monday of each month. County Loan is the Minimum Price.

Month	Wheat	Basis	Soybeans	Basis	Corn	Basis
Jan 2023	8.10	-0.70	13.38	-0.60	5.50	-0.40
Feb	8.36	-0.55	13.20	-0.60	5.53	-0.40
Mar	7.77	-0.55	12.95	-0.55	5.19	-0.40
Apr	8.16	-0.55	12.55	-0.55	5.22	-0.35
May	7.92	-0.55	12.04	-0.67	4.94	-0.35
June	7.56	-0.55	11.93	-0.50	5.18	-0.35
July	7.93	-0.55	12.42	-0.80	4.55	-0.40
Aug	7.43	-0.70	12.47	-0.70	4.58	-0.30
Sept	6.91	-0.90	12.93	-0.70	4.49	-0.35
Oct	6.64	-0.65	11.85	-0.80	4.62	-0.30
Nov	6.87	-0.40	12.79	-0.95	4.29	-0.40
Dec	6.81	-0.50	12.65	-0.70	4.47	-0.40
Jan 2024	6.72	-0.35	11.75	-0.75	4.26	-0.35
Feb	6.30	-0.55	10.99	-0.93	4.02	-0.30
Mar						
Apr						
May						
Jun						
Average	7.39	-0.58	12.42	-0.7	4.77	-0.36

2024 Base Line Prices for Wheat, Soybeans and Corn

Local price (forward contract) quoted at AGV Barnesville, MN (Wheat & Soybeans) and Cargill (Wahpeton Corn Plant) for 2024 grain on the second Monday of each month. County Loan is the Minimum Price.

Month	Wheat	Basis	Soybeans	Basis	Corn	Basis
Jan 2024	6.75	-0.65	11.30	-0.75	4.53	-0.40
Feb	6.22	-0.70	10.91	-0.80	4.31	-0.40
Mar						
Apr						
May						
June						
July						
Aug						
Sept						
Oct						
Nov						
Dec						
Jan 2025						
Feb						
Mar						
Apr						
May						
Jun						
Average	6.51	-0.67	11.13	-0.77	4.43	-0.40

Corn Quotes-2024	12/15/2023	Spread		12/18/2023	Spread		12/20/2023	Spread		12/22/2023	Spread
Dec-24	5.084		Dec-24	5.116		Dec-24	5.042		Dec-24	5.03	
Mar-25	5.184	0.1	Mar-25	5.204	0.088	Mar-25	5.136	0.094	Mar-25	5.136	0.106
May-25	5.234	0.15	May-25	5.262	0.146	May-25	5.186	0.144	May-25	5.182	0.152
Jul-25	5.246	0.162	Jul-25	5.254	0.138	Jul-25	5.186	0.144	Jul-25	5.194	0.164
	12/26/2023			12/27/2023	<u> </u>		12/29/2023			1/2/2024	
Dec-24	5.044	Spread	Dec-24	5.076	Spread	Dec-24	5.054	Spread	Dec-24	5.034	Spread
Mar-25	5.154	0.11	Mar-25	5.184	0.108	Mar-25	5.16	0.106	Mar-25	5.142	0.108
May-25	5.206	0.162	May-25	5.246	0.17	May-25	5.214	0.16	May-25	5.196	0.162
Jul-25	5.214	0.17	Jul-25	5.254	0.178	Jul-25	5.22	0.166	Jul-25	5.202	0.168
	1/4/2024	Spread		1/8/2024	Spread		1/10/2024	Spread		1/12/2024	Spread
Dec-24	4.984		Dec-24	4.932		Dec-24	4.912		Dec-24	4.816	
Mar-25	5.094	0.11	Mar-25	5.03	0.098	Mar-25	5.024		Mar-25	4.926	0.11
May-25	5.146	0.162	May-25	5.086	0.154	May-25	5.09	0.178	May-25		0.166
Jul-25	5.154	0.17	Jul-25	8.112		Jul-25	5.082	0.17	Jul-25	5	0.184
	1/15/2024	Spread		1/17/2024	Spread		1/22/2024	Spread		1/24/2024	Spread
Dec-24	4.816		Dec-24	4.746		Dec-24	4.766		Dec-24	4.786	
Mar-2	4.926	0.11	Mar-25	4.862	0.116	Mar-25	4.874	0.108	Mar-25	4.894	0.108
May-25		0.166	May-25	4.944		May-25	4.922		May-25		
Jul-25		0.184	Jul-25	4.924		Jul-25	4.936		Jul-25		
	1/29/2024	Spread		1/31/2024			2/5/2024			2/7/2024	
Dec-24			Dec-24			Dec-24	4.764		Dec-24		
Mar-25		0.104	Mar-25	4.9		Mar-25	4.874		Mar-25		
May-25		0.15	May-25	4.95		May-25	4.93				
Jul-25		0.17	Jul-25	4.976		Jul-25	4.954		Jul-25		
	2/12/2024	Spread		2/14/2024			2/19/2024			2/21/2024	•
Dec-24			Dec-24	4.642		Dec-24	4.586		Dec-24		
Mar-25		0.112	Mar-25	4.754		Mar-25	4.704		Mar-25		
May-25		0.172	May-25	4.816		May-25	4.77				
Jul-25		0.18	Jul-25	4.85		Jul-25	4.81		Jul-25	4.806	
	2/23/2024	Spread		2/26/2024			2/28/2024				Spread
Dec-24			Dec-24	4.474		Dec-24	4.602		Dec-24		
Mar-25			Mar-25	4.616		Mar-25	4.734				0
May-25		0.206	May-25	4.68		May-25	4.796		May-25		0
Jul-25		0.232	Jul-25	4.714		Jul-25	4.832		Jul-25		0
		Spread			Spread			Spread			Spread
Dec-24			Dec-24			Dec-24			Dec-24		
Mar-25		0	Mar-25		0	Mar-25		0	Mar-25		0
May-25		0	May-25		0	May-25		0	May-25		0
Jul-25		0	Jul-25		0	Jul-25		0	Jul-25		0

Basis Check Elevators	2/21/2024	2/23/2024	2/26/2024	2/28/2024	
Old Corn-Ag Valley	-0.5	-0.5	-0.5	-0.5	
Old Corn-Felton	-0.62	-0.62	-0.62	-0.62	
Old Corn-Cargill	-0.2	-0.2	-0.2	-0.2	
Old Corn-Georgetown	-0.59	-0.59	-0.59	-0.59	
Old Corn-Tharaldson	-0.4	-0.4	-0.4	-0.4	
Old Corn-CW Valley	-0.5	-0.5	-0.5	-0.6	
Old Corn-Valley United	-0.5	-0.6	-0.6	-0.6	
Old Corn-Maple River	-0.62	-0.62	-0.62	-0.62	
Old Soybean-Ag Valley	-0.75	-0.80	-0.80	-0.80	
Old Soybean-Felton	-1.12	-1.12	-1.12	-1.12	
Old Soybean-Minn Kota	-0.85	-0.85	-0.85	-0.85	
Old Soybean-Georgetown	-0.87	-0.87	-0.87	-0.87	
Old Soybean-CW Valley	-0.9	-0.9	-0.9	-0.9	
Old Soybean-Valley United	-0.8	-1.05	-1.05	-1.05	
Old Soybean-Maple River	-0.98	-0.98	-1.03	-1.03	
Old S.WAg Valley	-0.25	-0.25	-0.25	-0.25	
Old S.WFelton	-0.17	-0.17	-0.17	-0.17	
Old S.WMinn Kota	-0.6	-0.6	-0.6	-0.6	
Old S.WGeorgetown	-0.23	-0.23	-0.23	-0.23	
Old S.WCW Valley	-0.5	-0.5	-0.5	-0.5	
Old S.WValley United	-0.2	-0.2	-0.2	-0.2	
Old S.WMaple River	-0.55	-0.55	-0.55	-0.55	
New Corn 24-Ag Valley	-0.6	-0.6	-0.6	-0.6	
New Corn 24-Felton	-0.67	-0.67	-0.67	-0.67	
New Corn 24-Cargill	-0.4	-0.4	-0.4	-0.4	
New Corn 24-Georgetown					
New Corn 24-Tharaldson	-0.4	-0.4	-0.4	-0.4	
New Corn 24-CW Valley	-0.65	-0.65	-0.65	-0.65	
New Corn 24-Valley United	-0.65	-0.65	-0.65	-0.65	
New Corn 24-Maple River	-0.67	-0.67	-0.67	-0.67	
New Soybean 24-Ag Valley	-0.75	-0.75	-0.75	-0.75	
New Soybean 24-Felton	-0.87	-0.87	-0.87	-0.87	
New Soybean 24-Minn Kota	-0.75	-0.75	-0.75	-0.75	
New Soybean 24-Georgetown					
New Soybean 24-CW Valley	-0.8	-0.8	-0.8	-0.8	
New Soybean 24-Valley United	-0.8	-0.8	-0.8	-0.8	
New Soybean 24-Maple River	-0.8	-0.8	-0.8	-0.8	
New S.W. 24-Ag Valley	-0.65	-0.65	-0.65	-0.65	
New S.W. 24-Felton	-0.62	-0.62	-0.62	-0.62	
New S.W.24-Minn Kota	-0.7	-0.7	-0.7	-0.7	
New S.W. 24-Georgetown					
New S.W. 24-CW Valley	-0.65	-0.65	-0.65	-0.65	
New S.W. 24-Valley United	-0.7	-0.7	-0.7	-0.7	
New S.W. 24-Maple River	-0.7	-0.7	-0.7	-0.7	

Name:	Name: Farm Business Management-Projection for 2023 Central RRV Valley												1					
2023 Futures		6.49		11.28		4.1		P	rices a	as of 2/28/202	24				4			
2023 PROJECTED FARM	CAS	H FLOW	BYC	CROP/BE	Ρ	Expenses b	ased	on 2022 final N	1hd Ar	nalysis								
Projected Future Prices-Basis	\$	(0.17)	\$	(0.80)	\$. (0.20)		Non JV									C	Old Crop
Based on historical values	v	/HEAT	so	YBEANS		CORN	5	SugarBeet	Sı	unflowers		Barley	Edi	ble Beans		Seed/Soy		Hay
Acres		1		1		1		1		1		1		1	1	1		1
Yield Per Acre	(67.00		42.00		170.00		27.00		25.00		85.00		22.00		42.00		3.50
Price Received per unit	\$	6.32	\$	10.48	\$	3.90	\$	85.00	\$	22.50	\$	5.00	\$	32.00	\$		\$	160.00
Total Product Return per Acre	\$	423.44	\$	440.16	\$	663.00	\$	2,295.00	\$	562.50	\$	425.00	\$	704.00	\$	503.16	\$	560.00
Gross Return per Acre	\$	423.44	\$	440.16	\$	663.00	\$	2,295.00	\$	562.50	\$	425.00	\$	704.00	\$	503.16	\$	560.00
DIRECT EXPENSES																		
Seed	\$	32.00	\$	65.00	\$	105.00	\$	285.00	\$	40.00	\$	20.00	\$	70.00	\$	64.00		
Fertilizer	\$	167.00	\$		\$	210.00	\$	125.00	\$	145.00	\$	120.00	\$	135.00	\$	30.00	\$	80.00
Crop Chemicals	\$	42.00	\$	48.00	\$	40.00	\$	164.00	\$	48.00	\$	40.00	\$	95.00	\$	48.00		
Crop Insurance	\$	21.00	\$		\$	26.00		47.00	\$	31.00	\$	28.00	\$	34.00	\$	25.00	\$	4.00
Fuel and Oil	\$	23.00	\$		\$	35.00		83.00	\$	28.00	\$	27.00	\$	29.00	\$	23.00	\$	39.00
Repairs	\$	35.00	\$		\$	71.00	\$	136.00	\$	54.00	\$	44.00	\$	44.00	\$	36.00	\$	63.00
Custom Hire/Lease	\$	8.00	\$	6.00	\$	8.00	\$	115.00	\$	5.00	\$	4.00	\$	3.00	\$	6.00	\$	20.00
Land Rent/Costs Drying	\$	155.00	\$	155.00	\$	155.00 15.00	\$	155.00	\$	155.00	\$	155.00	\$	155.00	\$	155.00	\$	155.00
	•	10.00	¢	10.00	Ъ Ф	15.00	\$	23.00	\$	19.00	\$	19.00	\$	14.00	\$	10.00	\$	12.00
INUSCEIIADEOLIS	*	1()()()																
Miscellaneous TOTAL DIRECT EXPENSE	\$ \$	10.00 493.00	\$ \$		\$ \$				φ \$		\$		\$				\$	
TOTAL DIRECT EXPENSE		493.00	Ф \$	398.00	Ф \$			1,133.00		525.00	\$	457.00		579.00				373.00
		493.00	⊅ \$ No L/I	398.00	⇒ \$ No L	680.00		1,133.00		525.00	\$ No L	457.00		579.00		397.00		373.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses	\$	493.00	\$ No L/N	398.00	\$ No L	680.00 _/M 105.00	\$	1,133.00	\$ No L/	525.00	\$ No L	457.00	\$	579.00	\$ No I	397.00	\$ No L/N	373.00
TOTAL DIRECT EXPENSE	\$ No L/	493.00 M	\$ No L/N	398.00 M	\$ No L	680.00 _/M	\$ No L	1,133.00 /M	\$ No L/	525.00 /M	\$ No L	457.00 /M	\$ No L/	579.00 M	\$ No I	397.00	\$ No L/N	373.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE	\$ No L/ \$ \$	493.00 M 60.00 60.00	\$ No L/N \$ \$	398.00 M 60.00 60.00	\$ No L \$ \$	680.00 _/M _105.00 _105.00	\$ No L \$ \$	1,133.00 /M 240.00 240.00	\$ No L/ \$ \$	525.00 /M 90.00 90.00	\$ No L \$ \$	457.00 /M 60.00 60.00	\$ No L/ \$ \$	579.00 M 85.00 85.00	\$ No I \$ \$	397.00 L/M 60.00 60.00	\$ No L/N \$ \$	373.00 1 90.00 90.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses	\$ No L/	493.00 M 60.00	\$ No L/N \$	398.00 M 60.00	\$ No L \$	680.00 _/M 105.00	\$ No L \$	1,133.00 /M 240.00	\$ No L/ \$	525.00 /M 90.00	\$ No L \$	457.00 /M 60.00	\$ No L/ \$	579.00 M 85.00	\$ No I \$	397.00	\$ No L/N \$	373.00 1 90.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE	\$ No L/ \$ \$	493.00 M 60.00 60.00	\$ No L/N \$ \$	398.00 M 60.00 60.00	\$ No L \$ \$	680.00 _/M _105.00 _105.00	\$ No L \$ \$	1,133.00 /M 240.00 240.00	\$ No L/ \$ \$	525.00 /M 90.00 90.00	\$ No L \$ \$	457.00 /M 60.00 60.00	\$ No L/ \$ \$	579.00 M 85.00 85.00	\$ No I \$ \$	397.00 L/M 60.00 60.00	\$ No L/N \$ \$	373.00 1 90.00 90.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE	\$ No L/ \$ \$	493.00 M 60.00 60.00 553.00	\$ No L/N \$ \$	398.00 M 60.00 458.00	\$ No L \$ \$	680.00 /M 105.00 105.00 785.00	\$ No L \$ \$	1,133.00 /M 240.00 240.00 1,373.00	\$ No L/ \$ \$	525.00 /M 90.00 90.00 615.00	\$ No L \$ \$	457.00 /M 60.00 60.00 517.00	\$ No L/ \$ \$	579.00 M 85.00 85.00 664.00	\$ No I \$ \$	397.00 L/M 60.00 60.00 457.00	\$ No L/N \$ \$	373.00 1 90.00 90.00 463.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE	\$ No L/ \$ \$	493.00 M 60.00 60.00 553.00	\$ No L/M \$ \$ \$	398.00 M 60.00 458.00	\$ No L \$ \$	680.00 /M 105.00 105.00 785.00	\$ No L \$ \$ \$	1,133.00 /M 240.00 240.00 1,373.00	\$ No L/ \$ \$	525.00 /M 90.00 90.00 615.00	\$ No L \$ \$	457.00 /M 60.00 60.00 517.00	\$ No L/ \$ \$	579.00 M 85.00 85.00 664.00	\$ No I \$ \$	397.00 L/M 60.00 60.00 457.00	\$ No L/N \$ \$ \$	373.00 1 90.00 90.00 463.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE NET RETURN/ACRE	\$ No L/ \$ \$ \$	493.00 M 60.00 553.00 (129.56)	\$ No L/M \$ \$ \$	398.00 M 60.00 458.00 (17.84) 440.16	\$ No L \$ \$	680.00 /M 105.00 105.00 785.00 (122.00)	\$ No L \$ \$ \$	1,133.00 /M 240.00 240.00 1,373.00 922.00	\$ No L/ \$ \$ \$	525.00 /M 90.00 90.00 615.00 (52.50)	\$ No L \$ \$ \$	457.00 /M 60.00 60.00 517.00 (92.00)	\$ No L/ \$ \$ \$	579.00 M 85.00 85.00 664.00 40.00	\$ No I \$ \$ \$	397.00 L/M 60.00 457.00 46.16 503.16	\$ No L/N \$ \$ \$	373.00 1 90.00 90.00 463.00 97.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE NET RETURN/ACRE Estimated Income	\$ No L/ \$ \$ \$ \$	493.00 M 60.00 553.00 (129.56) 423.44 553.00	\$ No L/M \$ \$ \$ \$ \$ \$	398.00 M 60.00 458.00 (17.84) 440.16 458.00	\$ No L \$ \$ \$	680.00 /M 105.00 785.00 (122.00) 663.00 785.00	\$ No L \$ \$ \$	1,133.00 /M 240.00 240.00 1,373.00 922.00 2,295.00 1,373.00	\$ No L/ \$ \$ \$ \$	525.00 /M 90.00 615.00 (52.50) 562.50 615.00	\$ No L \$ \$ \$	457.00 /M 60.00 517.00 (92.00) 425.00 517.00	\$ No L/ \$ \$ \$ \$ \$ \$	579.00 M 85.00 664.00 40.00 704.00 664.00	\$ No I \$ \$ \$	397.00 L/M 60.00 457.00 46.16 503.16 457.00	\$ No L/N \$ \$ \$ \$	373.00 1 90.00 90.00 463.00 97.00 560.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE NET RETURN/ACRE Estimated Income Estimated Expense Profit Per Acre	\$ No L/ \$ \$ \$	493.00 M 60.00 553.00 (129.56) 423.44 553.00 (129.56)	\$ No L/M \$ \$ \$ \$ \$ \$	398.00 M 60.00 458.00 (17.84) 440.16 458.00 (17.84)	\$ No L \$ \$ \$	680.00 /M 105.00 785.00 (122.00) 663.00 785.00 (122.00)	\$ No L \$ \$ \$	1,133.00 /M 240.00 240.00 1,373.00 2,295.00 1,373.00 922.00	\$ No L/ \$ \$ \$	525.00 /M 90.00 615.00 (52.50) 562.50 615.00 (52.50)	\$ No L \$ \$ \$	457.00 /M 60.00 517.00 (92.00) 425.00 517.00 (92.00)	\$ No L/ \$ \$ \$ \$ \$ \$	579.00 M 85.00 664.00 40.00 704.00 664.00 40.00	\$ No I \$ \$ \$	397.00 /M 60.00 60.00 457.00 46.16 503.16 457.00 46.16	\$ No L/N \$ \$ \$ \$ \$ \$	373.00 90.00 90.00 463.00 97.00 560.00 463.00 97.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE NET RETURN/ACRE Estimated Income Estimated Expense	\$ No L/ \$ \$ \$ \$	493.00 M 60.00 553.00 (129.56) 423.44 553.00	\$ No L/M \$ \$ \$ \$ \$ \$	398.00 M 60.00 458.00 (17.84) 440.16 458.00	\$ No L \$ \$ \$	680.00 /M 105.00 785.00 (122.00) 663.00 785.00	\$ No L \$ \$ \$	1,133.00 /M 240.00 240.00 1,373.00 922.00 2,295.00 1,373.00	\$ No L/ \$ \$ \$ \$	525.00 /M 90.00 615.00 (52.50) 562.50 615.00	\$ No L \$ \$ \$	457.00 /M 60.00 517.00 (92.00) 425.00 517.00	\$ No L/ \$ \$ \$ \$ \$ \$	579.00 M 85.00 664.00 40.00 704.00 664.00	\$ No I \$ \$ \$	397.00 L/M 60.00 457.00 46.16 503.16 457.00	\$ No L/N \$ \$ \$ \$ \$ \$	373.00 90.00 90.00 90.00 90.00 90.00 90.00 97.00 560.00 463.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE NET RETURN/ACRE Estimated Income Estimated Expense Profit Per Acre	\$ No L/ \$ \$ \$ \$	493.00 M 60.00 553.00 (129.56) 423.44 553.00 (129.56)	\$ No L/M \$ \$ \$ \$ \$ \$	398.00 60.00 60.00 458.00 (17.84) 440.16 458.00 (17.84) -3.90%	\$ No L \$ \$ \$	680.00 /M 105.00 785.00 (122.00) 663.00 785.00 (122.00)	\$ No L \$ \$ \$	1,133.00 /M 240.00 240.00 1,373.00 2,295.00 1,373.00 922.00	\$ No L/ \$ \$ \$ \$	525.00 /M 90.00 615.00 (52.50) 562.50 615.00 (52.50) -8.54%	\$ No L \$ \$ \$	457.00 /M 60.00 517.00 (92.00) 425.00 517.00 (92.00)	\$ No L/ \$ \$ \$ \$ \$ \$	579.00 M 85.00 664.00 40.00 704.00 664.00 40.00	\$ No I \$ \$ \$	397.00 /M 60.00 60.00 457.00 46.16 503.16 457.00 46.16	\$ No L/N \$ \$ \$ \$ \$ \$	373.00 90.00 90.00 463.00 97.00 560.00 463.00 97.00
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE NET RETURN/ACRE Estimated Income Estimated Expense Profit Per Acre Profit Margin BEP	\$ No L/ \$ \$ \$ \$ \$ \$ \$ \$	493.00 M 60.00 553.00 (129.56) 423.44 553.00 (129.56) -23.43% 8.25	\$ No L/M \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	398.00 60.00 60.00 458.00 (17.84) 440.16 458.00 (17.84) -3.90% 10.90	\$ No L \$ \$ \$ \$ \$	680.00 /M 105.00 785.00 (122.00) 663.00 785.00 (122.00) -15.54%	\$ No L \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,133.00 /M 240.00 240.00 1,373.00 922.00 2,295.00 1,373.00 922.00 67.15% 50.85	\$ No L/ \$ \$ \$ \$ \$ \$	525.00 /M 90.00 615.00 (52.50) 562.50 615.00 (52.50) -8.54%	\$ No L \$ \$ \$ \$	457.00 /M 60.00 517.00 (92.00) 425.00 517.00 (92.00) -17.79% 6.08	\$ No L/ \$ \$ \$ \$ \$ \$ \$	579.00 M 85.00 664.00 40.00 664.00 40.00 664.00 40.00 6.02% 30.18	\$ No I \$ \$ \$ \$ \$ \$ \$	397.00 /M 60.00 60.00 457.00 46.16 503.16 457.00 46.16 10.10% 10.88	\$ No L/N \$ \$ \$ \$ \$ \$ \$	373.00 90.00 90.00 463.00 97.00 560.00 463.00 97.00 20.95% 132.29
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE NET RETURN/ACRE Estimated Income Estimated Expense Profit Per Acre Profit Margin BEP L/M & NR \$50/A	\$ No L/ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	493.00 M 60.00 553.00 (129.56) 423.44 553.00 (129.56) -23.43% 8.25 9.00	\$ No L/M \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	398.00 60.00 60.00 458.00 (17.84) 440.16 458.00 (17.84) -3.90% 10.90 12.10	\$ No L \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	680.00 /M 105.00 785.00 (122.00) 663.00 785.00 (122.00) -15.54% 4.62 4.91	\$ No L \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,133.00 /M 240.00 240.00 1,373.00 2,295.00 1,373.00 922.00 67.15% 50.85 52.70	\$ No L/ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	525.00 /M 90.00 90.00 615.00 (52.50) 562.50 615.00 (52.50) -8.54% 24.60 26.60	\$ No L \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	457.00 /M 60.00 517.00 (92.00) 425.00 517.00 (92.00) -17.79% 6.08 6.67	\$ No L/ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	579.00 M 85.00 664.00 40.00 664.00 40.00 664.00 40.00 6.02% 30.18 32.45	\$ No I \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	397.00 /M 60.00 60.00 457.00 46.16 503.16 457.00 46.16 10.10% 10.88 12.07	\$ No L/N \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	373.00 90.00 90.00 463.00 97.00 560.00 463.00 97.00 20.95% 132.29 146.57
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE NET RETURN/ACRE Estimated Income Estimated Expense Profit Per Acre Profit Margin BEP L/M & NR \$50/A L/M & NR \$100/A	\$ No L/ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	493.00 M 60.00 553.00 (129.56) 423.44 553.00 (129.56) -23.43% 8.25 9.00 9.75	\$ No L/N \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	398.00 460.00 60.00 458.00 (17.84) 440.16 458.00 (17.84) -3.90% 10.90 12.10 13.29	\$ No L \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	680.00 /M 105.00 785.00 (122.00) 663.00 785.00 (122.00) -15.54% 4.62 4.91 5.21	\$ No L \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,133.00 /M 240.00 240.00 1,373.00 2,295.00 1,373.00 922.00 67.15% 50.85 52.70 54.56	\$ No L/ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	525.00 /M 90.00 90.00 615.00 (52.50) 562.50 615.00 (52.50) -8.54% 24.60 26.60 28.60	\$ No L \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	457.00 /M 60.00 517.00 (92.00) 425.00 517.00 (92.00) -17.79% 6.08 6.67 7.26	\$ No L/ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	579.00 M 85.00 664.00 40.00 664.00 40.00 664.00 40.00 6.02% 30.18 32.45 34.73	\$ No I \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	397.00 L/M 60.00 457.00 46.16 503.16 457.00 46.16 10.10% 10.88 12.07 13.26	\$ No L/N \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	373.00 90.00 90.00 463.00 97.00 560.00 463.00 97.00 20.95% 132.29 146.57 160.86
TOTAL DIRECT EXPENSE OVERHEAD EXPENSES Overhead Expenses TOTAL OVERHEAD EXPENSE TOTAL EXPENSES/ACRE NET RETURN/ACRE Estimated Income Estimated Expense Profit Per Acre Profit Margin BEP L/M & NR \$50/A	\$ No L/ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	493.00 M 60.00 553.00 (129.56) 423.44 553.00 (129.56) -23.43% 8.25 9.00	\$ No L/N \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	398.00 40.00 60.00 458.00 (17.84) 440.16 458.00 (17.84) -3.90% 10.90 12.10 13.29 14.48	\$ No L \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	680.00 /M 105.00 785.00 (122.00) 663.00 785.00 (122.00) -15.54% 4.62 4.91	\$ No L \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,133.00 /M 240.00 240.00 1,373.00 2,295.00 1,373.00 922.00 67.15% 50.85 52.70	\$ No L/ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	525.00 /M 90.00 90.00 615.00 (52.50) 562.50 615.00 (52.50) -8.54% 24.60 26.60	\$ No L \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	457.00 /M 60.00 517.00 (92.00) 425.00 517.00 (92.00) -17.79% 6.08 6.67	\$ No L/ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	579.00 M 85.00 664.00 40.00 664.00 40.00 664.00 40.00 6.02% 30.18 32.45	\$ No I \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	397.00 L/M 60.00 457.00 46.16 503.16 457.00 46.16 10.10% 10.88 12.07 13.26	\$ No L/N \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	373.00 90.00 90.00 463.00 97.00 560.00 463.00 97.00 20.95% 132.29 146.57

Developed by Randy Zimmerman, NCTC Ulen-Mahnomen Modified by Josh Tjosaas and Ron Dvergsten-Moorhead

2023 GRAIN SALES SUMMARY

<u>Name</u>

	Acres	Preharvest Sales	Sales to Date	Bushels to Left to Presell	Percent Sold	Ave	erage Futures Price	A١	verage Cash Price	Total	Preharvest Sales
Corn	600	72000	85000	-13000	89%	\$	5.12	\$	4.65	\$	395,050.00
Soybean	600	16650	22200	-5550	100%	\$	12.75	\$	12.12	\$	269,160.00
Wheat	300	15750	20075	-4325	96%	\$	7.96	\$	7.71	\$	154,827.50
Totals	1500									\$	819,037.50

POST HARVEST SALES SUMMARY

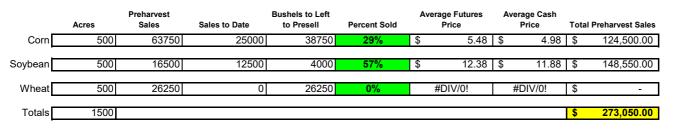
	Acres	Bushels to Sell	I otal Bushels to Produce	39500		10	tal Postnarvest Sales	BU/A SOLD	BEP F	or Post Harvest		
Corn	600	11000	96000	11%	\$ 4.00	\$	44,000.00	141.67	\$	3.40	157.24 Car	gill
Soybean	600	0	22200	0%	\$ 10.33	\$	-	37.00		#DIV/0!	33.15 W	CA
Wheat	300	925	21000	4%	\$ 6.39	\$	5,910.75	66.92	\$	(6.28)	63.89 W0	CA
Other Crop	0.000001	Tons	Tons Produced	100%		\$	-			#DIV/0!	#DIV/0!	
ugarbeets	1	28.00	28	100%	55		1540		\$	47.96	24.414695	
Totals	1501					\$	51,450.75					
-		_						<u>ROI</u>		5%		
	Project	Corn Expense	\$ 432,435.44				<u>Net Farn</u>	n Income Ratio		5%		
		bean Expense										
		heat Expense	, ,				2020 Sales		N	let Return		
,	0	peet Expenses	. ,			\$	870,488.25		\$	42,394.25		
		Crop Expense						Return/Acre	\$	28.24		
To	tal Project F	arm Expense	\$ 828,094.00									

Name: Farm Business Management-Projection for 2024 Central RRV Valley																		
2024 Futures 6.68 11.3 4.61 Prices as of 2/28/2024																		
2024 PROJECTED FARM CASH FLOW BY CROP/BEP																		
Projected Future Prices-Basis	\$	(0.30)	\$	(0.60)	\$	(0.40)		Non JV										Old Crop
Based on historical values	V	VHEAT	<u>s</u>	OYBEANS		CORN		SugarBeet	S	Sunflowers		Barley	Ed	lible Beans		Seed/Soy		Hay
Acres		1		1		1		1		1		1		1		1		1
Yield Per Acre		65.00		40.00		164.25		27.50		25.00		85.00		20.00		40.00		3.50
Price Received per unit	\$	6.38		10.70		4.21	\$	65.00		22.00		5.75	\$	32.00		12.20		150.00
Total Product Return per Acre	\$	414.70		428.00	\$	691.49	\$	1,787.50	\$	550.00		488.75	\$	640.00		488.00	\$	525.00
Gross Return per Acre	\$	414.70	\$	428.00	\$	691.49	\$	1,787.50	\$	550.00	\$	488.75	\$	640.00	\$	488.00	\$	525.00
DIRECT EXPENSES																		
Seed	\$	33.00	\$	63.00	\$	97.50	\$	298.00	\$	40.00	\$	25.00	\$	65.00	\$	70.00		
Fertilizer	\$	159.00	\$		\$	175.00	\$	145.00	\$	95.00	\$	145.00	\$	80.00	\$	20.00	\$	70.00
Crop Chemicals	\$	50.00	\$		\$	35.50	\$	138.00	\$	45.00	\$	40.00	\$	85.00	\$	40.00		
Crop Insurance	\$	25.00	\$	25.00	\$		\$	62.00	\$	30.00	\$	25.00	\$	28.00	\$	30.00	\$	4.00
Fuel and Oil	\$	24.00	\$	24.00	\$	35.00		86.00	\$	25.00	\$	24.00	\$	35.00	\$	24.00	\$	35.00
Repairs	\$	40.00	\$	40.00	\$		\$	140.00		54.00	\$	40.00	\$	54.00		40.00	\$	60.00
Custom Hire/Lease	\$	8.00	\$	8.00	\$	8.00	\$		\$	8.00	\$	8.00	\$	8.00	\$	8.00	\$	20.00
Land Rent/Costs	\$	165.00	\$	165.00	\$	165.00	\$	165.00	\$	165.00	\$	165.00	\$	165.00	\$	165.00	\$	165.00
Drying Miscellaneous	\$	12.00	¢	12.00	<u></u> Տ	<u>15.00</u> 17.00	\$	27.00	¢	14.00	¢	12.00	\$	18.00	¢	12.00	¢	16.00
TOTAL DIRECT EXPENSE	۰ ۲		•															370.00
TOTAL DIRECT EXPENSE \$ 516.00 \$ 414.00 \$ 644.00 \$ 1,181.00 \$ 476.00 \$ 484.00 \$ 538.00 \$ 409.00 \$ 37													570.00					
OVERHEAD EXPENSES																		
Overhead Expenses	\$	50.00		50.00		90.00	\$	240.00	+	90.00		50.00	\$	75.00		50.00		80.00
TOTAL OVERHEAD EXPENSE	\$	50.00	\$	50.00	\$	90.00	\$	240.00	\$	90.00	\$	50.00	\$	75.00	\$	50.00	\$	80.00
TOTAL EXPENSES/ACRE	\$	566.00	\$	464.00	\$	734.00	\$	1,421.00	\$	566.00	\$	534.00	\$	613.00	\$	459.00	\$	450.00
TOTAL EXPENSES/ACKE	- P	500.00	φ	404.00	φ	734.00	φ	1,421.00	φ	300.00	φ	554.00	φ	013.00	φ	439.00	φ	430.00
NET RETURN/ACRE	\$	(151.30)	\$	(36.00)	\$	(42.51)	\$	366.50	\$	(16.00)	\$	(45.25)	\$	27.00	\$	29.00	\$	75.00
		(•	(00.00)	•	()	· ·			(10.00)	-	(10.20)	Ť			20.00	•	
Estimated Income	\$	414.70	\$	428.00	\$	691.49	\$	1,787.50	\$	550.00	\$	488.75	\$	640.00	\$	488.00	\$	525.00
Estimated Expense	\$	566.00	\$	464.00	\$	734.00	\$	1,421.00	\$	566.00	\$	534.00	\$	613.00	\$	459.00	\$	450.00
Profit Per Acre	\$	(151.30)	\$	(36.00)	\$	(42.51)	\$	366.50	\$	(16.00)	\$	(45.25)	\$	27.00	\$	29.00	\$	75.00
Profit Margin		-26.73%		-7.76%	-	-5.79%		25.79%		-2.83%		-8.47%		4.40%		6.32%	-	16.67%
110/0 110/0 110/0 2010/0 2010/0 0.41/0 0.41/0 4.40/0 0.02/0																		
BEP	\$	8.71	\$	11.60	\$	4.47	\$	51.67	\$	22.64	\$	6.28	\$	30.65	\$	11.48	\$	128.57
L/M & NR \$50/A	\$	9.48	\$	12.85	\$	4.77	\$	53.49	\$	24.64	\$	6.87	\$	33.15	\$	12.73	\$	142.86
L/M & NR \$100/A	\$	10.25	\$	14.10	\$	5.08	\$	55.31	\$	26.64	·	7.46	\$	35.65	\$	13.98	\$	157.14
L/M & NR \$150/A	\$	11.02			\$	5.38	\$	57.13	\$	28.64		8.05	\$	38.15	Ŧ	15.23	\$	171.43
L/M & NR \$200/A	\$	11.78			\$	5.69	\$	58.95	\$	30.64		8.64	Ŧ	40.65		16.48	\$	185.71
Developed by Randy Zimm	Ŧ		•		Ŧ	0.00	Ψ	00.00	Ψ	00.04	Ψ	0.04	Ψ	40.00	Ψ	10.40	Ψ	100.71

Developed by Randy Zimmerman, NCTC Ulen-Mahnomen Modified by Josh Tjosaas and Ron Dvergsten-Moorhead

2024 GRAIN SALES SUMMARY

<u>Name</u>

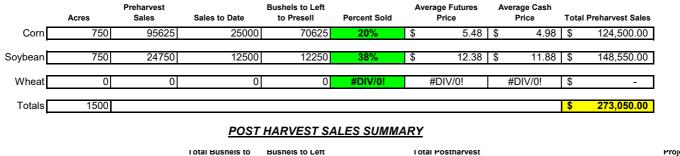


POST HARVEST SALES SUMMARY

	Acres	Bushels to Sell	l otal Busnels to Produce	Busnels to Lett to Presell		10	tal Postharvest Sales	BU/A SOLD	BEP Fo	r Post Harvest	Projected BEY w Sales	
Corn	500	60000	85000	71%	\$ 4.33	\$	259,800.00	50.00	\$	4.47	173.79	Cargill
Soybean	500	9500	22000	43%	\$ 10.48	\$	99,560.00	25.00	\$	10.73	44.46	WCA
Wheat	500	35000	35000	100%	\$ 6.05	\$	211,750.00	0.00	\$	7.86	90.91	WCA
)ther Crop	0.000001			100%		\$	-		i	#DIV/0!	#DIV/0!	
ugarbeets	0.000001	Tons 27.00	Tons Produced 0.000027	100%	55		0.001485		\$	52.44	25.745455	1
Totals	1500		0.000027	100 /8	55	\$	571,110.00		Ψ	J2.44	23.743433	
L								<u>ROI</u>		-8%		
	Project	Corn Expense	\$ 392,500.00				<u>Net Farm</u>	Income Ratio		-9%		
		bean Expense										
		heat Expense					2020 Sales		Ne	et Return		
,	0	peet Expenses				\$	844,160.00		\$	(73,840.00)		
		Crop Expense						Return/Acre	\$	(49.23)		
То	tal Project F	arm Expense	\$ 918,000.00									

2024 GRAIN SALES SUMMARY

<u>Name</u>

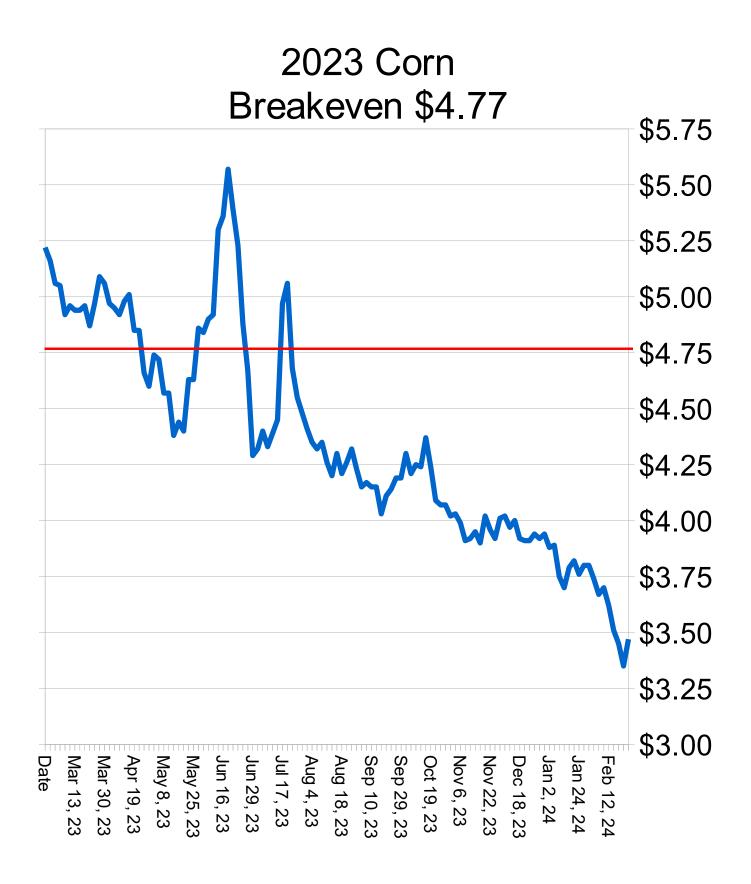


	Acres	Bushels to Sell	I otal Busnels to Produce	Busnels to Lett to Presell			10	tal Postnarvest Sales	BU/A SOLD	BEP	For Post Harvest	Projected BEY w Sales	
Corn	750	102500	127500	80%	\$	4.33	\$	443,825.00	33.33	\$	4.53	176.29	Cargill
Soybean	750	20500	33000	62%	\$	10.48	\$	214,840.00	16.67	\$	11.08	45.57	WCA
Wheat	0	0	0	#DIV/0!	¢	6.05	¢		#DIV/0!		#DIV/0!	#DIV/0!	WCA
wheat	0	0	0	#DIV/0!	\$	6.05	φ	-	#DIV/0!		#DIV/U!	#DIV/0!	WCA
Other Crop	0.000001			100%			\$	-			#DIV/0!	#DIV/0!	
	1	Fons	Tons Produced										
ugarbeets	0.000001	27.00	0.000027	100%		55		0.001485		\$	52.44	25.745455	
Totals	1500						\$	658,665.00					
									<u>R01</u>		-3%		
	Project C	Corn Expense	\$ 588,750.00					<u>Net Farn</u>	n Income Ratio		-4%		
		ean Expense											
		neat Expense						2020 Sales			Net Return		
,	0	eet Expenses					\$	931,715.00		\$	(32,785.00)		
		Crop Expense							Return/Acre	\$	(21.86)		
Tot	tal Project Fa	arm Expense	\$ 964,500.00										

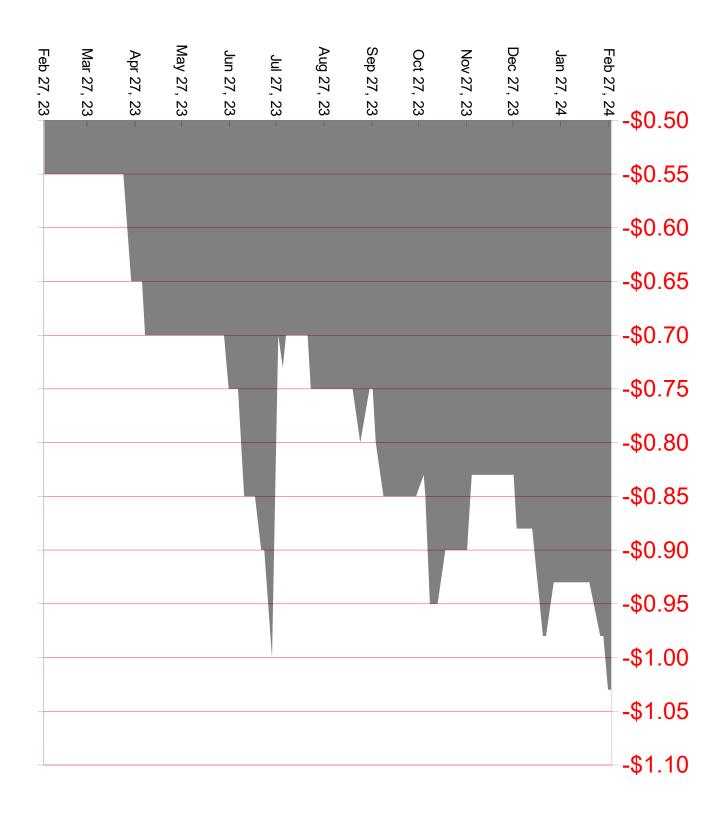
2023 Wheat Breakeven \$7.96



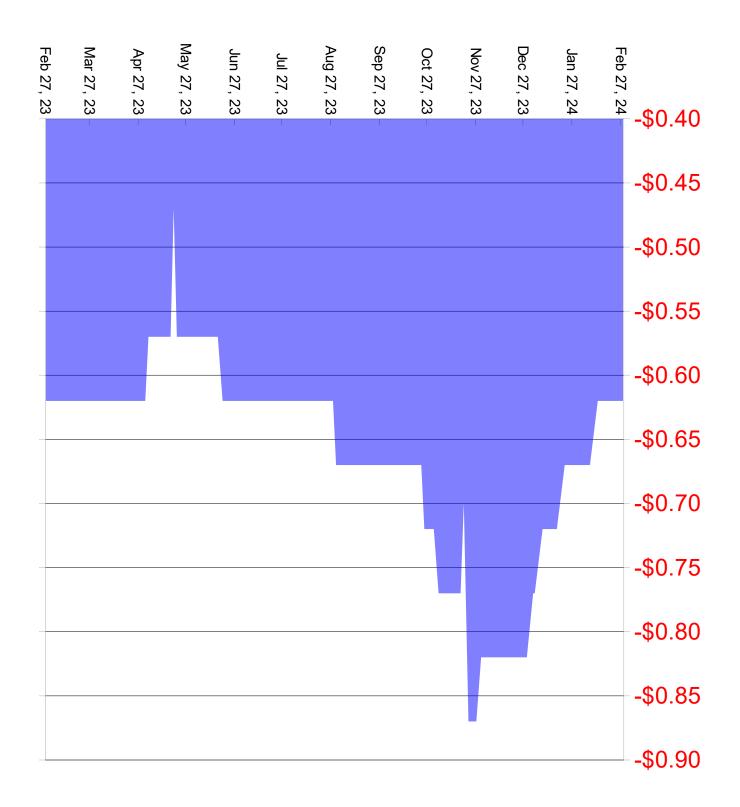




2023 Soybean basis



2023 Corn basis

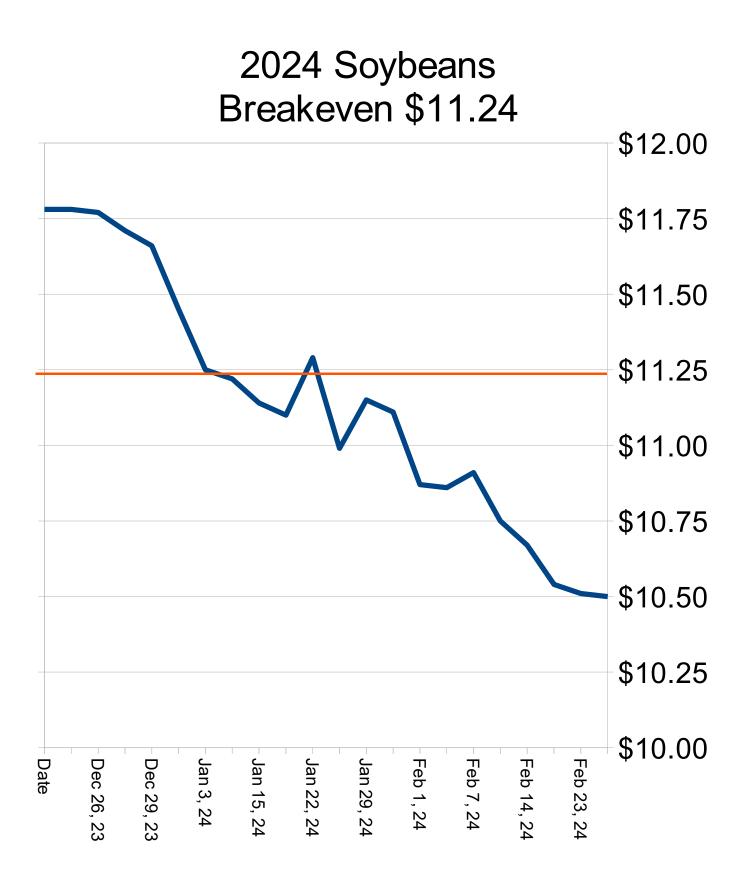


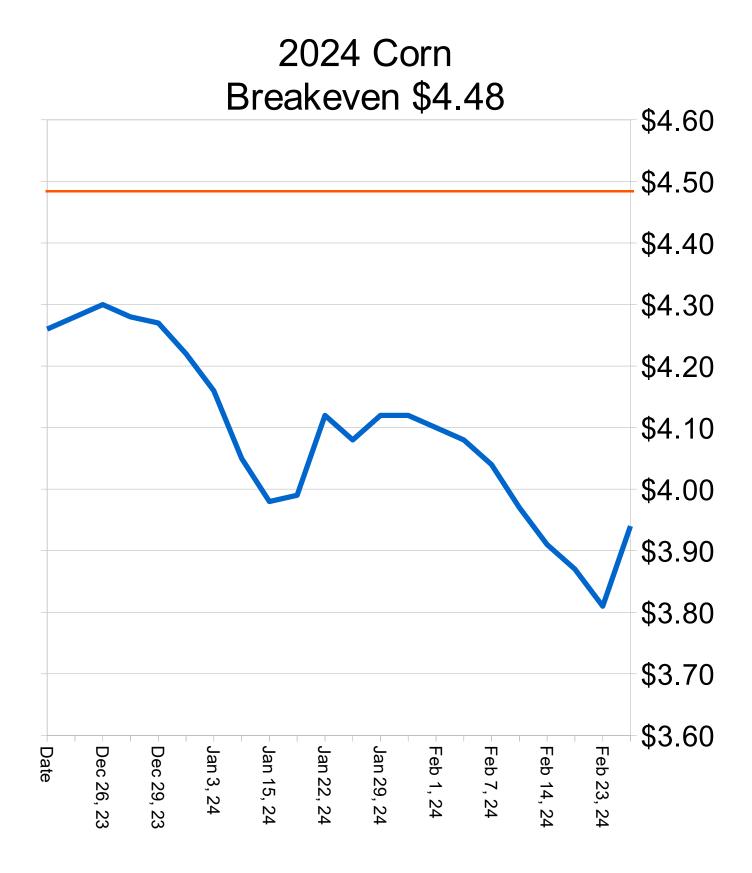
2023 Wheat basis

Feb 27, 23	Mar 27, 23	Apr 27, 23	May 27, 23	Jun 27, 23	Jul 27, 23	Aug 27, 23	Sep 27, 23	Oct 27, 23	Nov 27, 23	Dec 27, 23	Jan 27, 24	Feb 27, 24	
3	6	3	12	13	3	3	3	8	ι Δ	<u></u>	<u>1</u> 4	4	-\$0.50
													-\$0.55
										_			-\$0.60
													-\$0.65
													-\$0.70
													-\$0.75
													-\$0.80
													-\$0.85
						_							-\$0.90
													-\$0.95
													-\$1.00

2024 Wheat Breakeven \$7.97







2024 Soybean basis

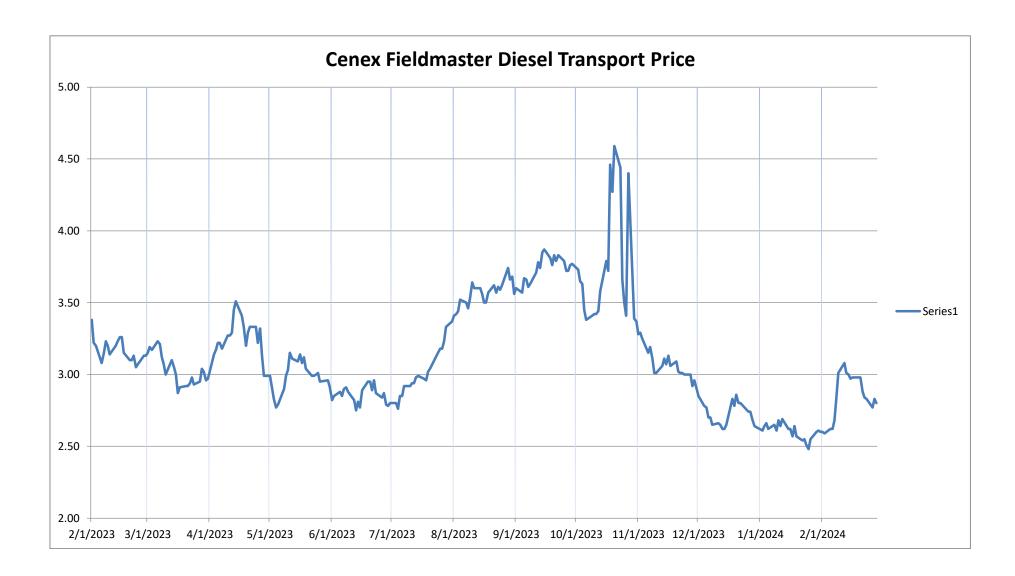
Dec 22, 23	Dec 26, 23	Dec 30, 23	Jan 3, 24	Jan 7, 24	Jan 11, 24	Jan 15, 24	Jan 19, 24	Jan 23, 24	Jan 27, 24	Jan 31, 24	Feb 4, 24	Feb 8, 24	Feb 12, 24	Feb 16, 24	Feb 20, 24	Feb 24, 24	Feb 28, 24
23	23 -	23 -	24	24	24 -	24 -	24 -	24	24 -	24 -	24 -	24 -	24 -	24 -	24 -	24 -	[≌] -\$0.70
																	-\$0.72
																	-\$0.74
																	-\$0.76
																	-\$0.78
																	-\$0.80
																	-\$0.82
																	-\$0.84
																	-\$0.86
																	-\$0.88
																	-\$0.90

2024 Corn basis

Dec 22, 23	Dec 26, 23	Dec 30, 23	Jan 3, 24	Jan 7, 24	Jan 11, 24	Jan 15, 24	Jan 19, 24	Jan 23, 24	Jan 27, 24	Jan 31, 24	Feb 4, 24	Feb 8, 24	Feb 12, 24	Feb 16, 24	Feb 20, 24	Feb 24, 24	Feb 28, 24	
, 23	, 23	, 23	, 24	, 24	, 24	, 24	, 24	, 24	, 24	, 24	, 24	, 24	, 24	, 24	, 24	, 24	, 24	-\$0.50
																		-\$0.52
																		-\$0.54
																		-\$0.56
_																		-\$0.58
																		-\$0.60
																		-\$0.62
																		-\$0.64
																		-\$0.66
																		-\$0.68
																		-\$0.70
																		-\$0.72
																		-\$0.74
																		-\$0.76
																		-\$0.78
																		-\$0.80

2024 Wheat basis

Dec 22, 23	Dec 26, 23	Dec 30, 23	Jan 3, 24	Jan 7, 24	Jan 11, 24	Jan 15, 24	Jan 19, 24	Jan 23, 24	Jan 27, 24	Jan 31, 24	Feb 4, 24	Feb 8, 24	Feb 12, 24	Feb 16, 24	Feb 20, 24	Feb 24, 24	Feb 28, 24	
23	23	23 -	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	-\$0.60
																		-\$0.62
																		-\$0.64
																		-\$0.66
_																		-\$0.68
																		-\$0.70
																		-\$0.72
																		-\$0.74
																		-\$0.76
																		-\$0.78
																		-\$0.80



Planning 2	2024 W	/heat 1	4% Pro	otein S	ales *	Assume		Using MR	GA for Bas
In/Out Cg =	-0.10	Loan	3.77		F	ree Elev			
Bank Int =	8.50%	Per Mth =	0.71%	1	S	torage			
CCC Int =	6.13%	Per Mth =	0.51%		S	tart in Feb			
Home Storage	-0.03		Basis = 1	Historical					
Elevator Storage	-0.05								
	Nearby	 Cash	5.94			Net Cash	Net Cash	Net Cash	Net Cash
Calendar	5			Interest	Interest	Bank			CCC
Month		•	Basise			No Store	Elevator		No Store
				20					
Feb-24	Mar	6.484	-0.550	0.000	0.000	5.934	5.934	5.934	5.934
Mar-24	Mar	6.484	-0.550	-0.042	-0.030	5.792	5.742	5.762	5.804
Apr-24	May	6.484	-0.550	-0.084	-0.061	5.750	5.650	5.690	5.773
May-24	May	6.562	-0.550	-0.126	-0.091	5.786	5.636	5.696	5.821
Jun-24	July	6.606	-0.500	-0.168	-0.121	5.838	5.638	5.718	5.885
Jul-24	July	6.606	-0.500	-0.210	-0.152	5.796	5.546	5.646	5.854
Aug-24	Sept	6.680	-0.700	-0.252	-0.182	5.628	5.378	5.478	5.698
Sep-24	Sept	6.680	-0.700	-0.295	-0.212	5.585	5.335	5.435	5.668
Oct-24	Dec	6.842	-0.600	-0.337	-0.243	5.805	5.555	5.655	5.899
Nov-24	Dec	6.842	-0.600	-0.379	-0.273	5.763	5.513	5.613	5.869
Dec-24	Dec	6.842	-0.600	-0.421	-0.303	5.721	5.471	5.571	5.839

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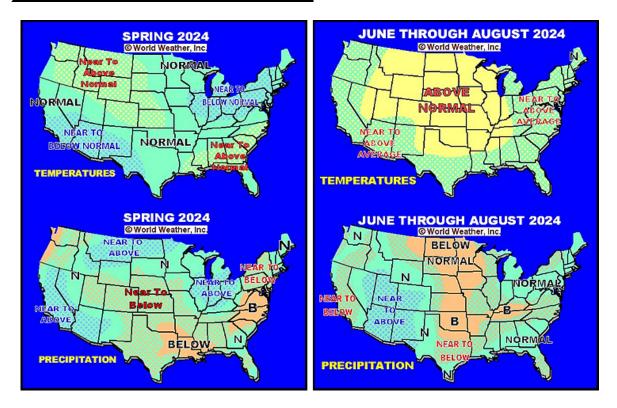
Planning 2	2024 C	orn Sa	les		* /	Assume			
In/Out Cg =	-0.10	Loan	2.06		Fr	ee Elev			
Bank Int =	8.50%	Per Mth =	0.71% E	1	St	orage			
CCC Int =	6.13%	Per Mth =	0.51%		St	art in Feb			
Home Storage	-0.03		Basis = H	listorical					
Elevator Storage	-0.05								
			3.48			Not Cook	Not Cook	Not Cook	Not Coo
Colordor	Nearby			laterest	lutere et r			Net Cash	
Calendar		,			Interest	Bank			CCO
Month	Month	Futures	Basisə	Bank	CCC e >	No Store	Elevator	Home	No Stor
Feb-24	Mar	4.104	-0.620	0.000	0.000	3.484	3.484	3.484	3.48
Mar-24	Mar	4.104	-0.620	-0.025	-0.018	3.359	3.309	3.329	3.36
Apr-24	May	4.260	-0.670	-0.049	-0.036	3.441	3.341	3.381	3.45
May-24	May	4.260	-0.620	-0.074	-0.053	3.466	3.316	3.376	3.48
Jun-24	July	4.384	-0.620	-0.099	-0.071	3.565	3.415	3.445	3.59
Jul-24	Jul	4.384	-0.570	-0.123	-0.089	3.591	3.441	3.441	3.62
Aug-24	Sept	4.482	-0.570	-0.148	-0.107	3.664	3.514	3.514	3.70
Sep-24	Dec	4.616	-0.570	-0.148	-0.124	3.798	3.648	3.648	3.82
Oct-24	Dec	4.616	-0.670	-0.197	-0.142	3.649	3.499	3.499	3.70

Planning 2	2024 S	oybeaı	n Sales		*	Assume			
In/Out Cg =	-0.10	Loan	5.97		Fr	ee Elev			
Bank Int =	8.50%	Per Mth =	0.71% E	1	St	orage			
					St	art in Feb			
CCC Int =	6.13%	Per Mth =	0.51%						
Home Storage	-0.03		Basis = H	Historical					
Elevator Storage	e-0.05								
	Nearby	Cash	10.25			Net Cash	Net Cash	Net Cash	Net Cash
Calendar	Futures	Nearby	Nearbyit	Interest	Interest	Bank	Bank	Bank	CCC
Month	Month	Futures	Basise	Bank	CCCee	No Store	Elevator	Home	No Store
Feb-24	Mar	11.276	-1.030	0.000	0.000	10.246	10.246	10.246	10.246
Mar-24	Mar	11.276	-1.030	-0.073	-0.052	10.073	10.023	10.043	10.094
Apr-24	May	11.384	-1.080	-0.145	-0.105	10.059	9.959	9.999	10.099
May-24	May	11.384	-1.080	-0.218	-0.157	9.986	9.836	9.896	10.047
Jun-24	July	11.490	-1.120	-0.290	-0.209	9.980	9.780	9.860	10.061
Jul-24	Jul	11.490	-1.120	-0.363	-0.262	9.907	9.707	9.757	10.008
Aug-24	Nov	11.300	-0.800	-0.436	-0.314	9.964	9.764	9.814	10.086
Sep-24	Nov	11.300	-0.800	-0.508	-0.366	9.892	9.692	9.742	10.034
Oct-24	Nov	11.300	-0.800	-0.581	-0.419	9.819	9.619	9.669	9.981

By Drew Lerner

Kansas City, February 28 (World Weather Inc.) – February 2024 is likely to be a record warm month for many areas in North America, including parts of the Midwest and northern Plains. The last time February was so anomalously warm in the north-central United States was in 2017 which led World Weather, Inc. into a search for associations between record warm weather in the Midwest and northern Plains and other anomalous weather during the year. *One of the associations found back then was an association between the top warmest Februarys and a tendency for July to be warmer than usual in a part of the central U.S. World Weather, Inc revisited that research recently because it may help to raise the potential for a warmer than usual summer which is already being suggested by the lunar cycle, La Nina and possibly by the remnants of the Hunga Tonga Volcano still stuck in the stratosphere making the world quite warm.*

Below normal precipitation is already expected in the Great Plains and a part of the Midwest during the summer of 2024. After last year, in which most of the growing season was dominated by below normal precipitation and yet crop production was quite high, there are not too many forecasters interested in raising the potential for a crop threat in 2024. However, *World Weather, Inc. is a bit more concerned about the prospects for a hotter summer and the unusually warm February gives us one more reason to suspect some possible trouble in the growing season ahead.*

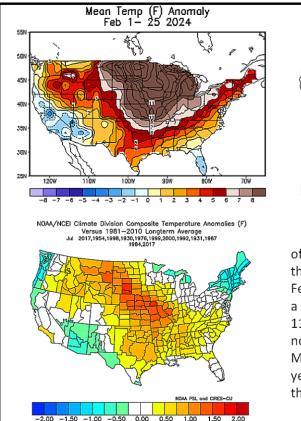


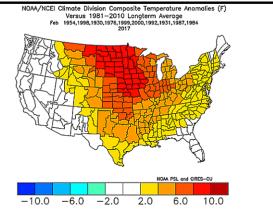
Changes in farm practices, land management and genetic engineering have helped world production of summer coarse grain and oilseeds rise in years of restricted rainfall. The key to good production years seems to be hinged on timely rainfall (even if well below

normal) and an absence of extreme heat. However, if temperatures are allowed to become hot while rainfall is well below normal the potential for crop production losses increases greatly. *That is why concern over the temperatures in 2024 in the U.S. Plains and western Midwest should be of great interest. Summer 2024 may again be drier than usual, but the odds are rising that there will be at least one period of well above normal temperatures that could change the bottom line for corn and soybean production.*

World Weather, Inc. has three good reasons and a possible fourth for concern about 2024 summer temperatures. First, there is a relatively good association between the top warmest Februarys and a warmer than usual July. Second, the lunar cycle is offering a strong signal in 2024 for both below normal precipitation and above normal temperatures and, as you will find in this report, a tendency to produce an above normal number of 100-degree days during the growing season. The associations presented here are not so strong that there is no chance for a busted forecast, although three different sources of data are suggesting the potential for hot weather. The third piece of the puzzle is associated with La Nina. If La Nina kicks in as quickly and the U.S. National Oceanic and Atmospheric Administration's (NOAA) Climate Prediction Center ENSO model predicts, the potential for a warmer and drier summer is further enhanced. On top of all that, there is the wild card of lingering stratospheric moisture from the January 22 Hunga Tonga volcanic eruption that has already been credited for the huge spikes upward in world temperatures during the past year.

LINKING WARMEST FEBRUARYS WITH WARM JULYS

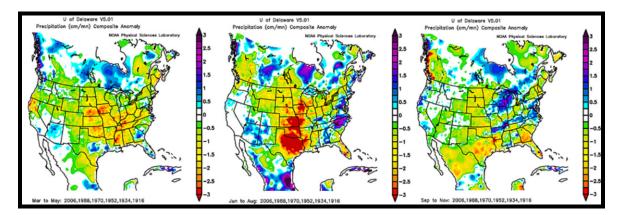




February 2024 will be ranked one of the warmest Februarys on record. In the past, the top 11 previous warmest Februarys were periodically followed by a warmer than usual July. Eight of the 11 Julys were warmer than usual, but not all of the Plains and western Midwest were included in the heat each year. Three of the years were cooler than usual

World Weather, Inc. conducted a study in 2017 looking for relationships associated with the warmest February's on record in the U.S. Midwest with other anomalies that occur in the same year. That study revealed a relatively strong relationship between record and near-record warmth in the Midwest and northern Plains during February with a higher-than-usual frequency of warmer-than-usual weather in July. <u>Out of the 11 years in the study eight had warmer than usual Julys in at least a portion of the Plains and/or a part of the western Midwest. Three year's however, were cooler than usual. The study suggested 72% of the time record or near record warm Februarys were followed by warm Julys, *but that is not enough evidence to hang one's hat on*.</u>

It is interesting to note that the 8 years that did have warm than usual summer included 1930, 1931, 1954, 1976, 1998, 1999, 1987 and 2017. Not all of these years had the warm anomaly in all of area shown in the graphic above. Some years were only warm in a part of the region shown on the composite diagram above. Many of the years listed, though, were a part of the current 22-year solar cycle or the current 18-year lunar cycle that World Weather, Inc. has been using in its forecasts in recent years. That increases the bias for this summer to possibly be a part of this grouping of warmer than usual summers.



LUNAR CYCLE PROMOTES MORE 100-DEGREE HEAT DAYS

In the meantime, there is much more we need to look at. We chose to look at the following lunar cycle years for our summer outlook; 2006, 1988, 1970, 1952, 1934 and 1916. *Each of these years (shown above) contributes to a six-year composite promoting below normal precipitation and warmer than usual temperatures in both the spring and summer*. Again, the biases are not inclusive of all areas, but the bias is very much swayed toward heat and dryness. Because of a bias for heat and dryness in the Plains and western Corn Belt, World Weather, Inc. was interested in the number days in which excessive heat was recorded in those years. The number of 100-degree days was the tool used to determine excessive heat, but 95 Fahrenheit should have probably have been used instead. The table below reflects a summary of the number of 100-degree days recorded for the May through September period as compared to normal for selected cities across the Plains and western Corn Belt where the temperature bias was most anomalous.

Notice the above-normal bias for the number of 100-degree days noted in the Great Plains and western Midwest during these six lunar cycle years. Only 1916 had a limited number of 100-degree day occurrences, but there were a few. 1934 was certainly expected to be high on the list of excessive heat days and it was not surprising to find a few locations in 1988 to also have a high incidence of excessive heat days. However, it was surprising how many such days occurred in 2006 and 1970 which are years that may be more like this one during the spring and summer. The greatest heat seemed to be focused on the central and southern Great Plains and far western Corn Belt as was suspected given the years included in this study and knowing that a high pressure ridge in each of the years tended to be over the Plains.

	FOP S			LAR TO THAT OF 2024			
LOCATION	TORS	May - Sep. Avg.	May - Sep. Actual	LOCATION		May - Sep. Avg.	May - Sep. Actu
LOCATION	2006	3	9	LOCATION	2006	23	42
	1988	3	16	_	1988	23	25
	1988	3	10	-	1988	23	18
Kansas City, MO	1970	3	7	Dallas/Fort Worth, TX	1970	23	44
	1932	3	46	_	1932	23	34
	1934	3	1	_	1934	23	8
	2006	3	6		2006	8	13
	1988	3	12	_	1988	8	3
	1988	3	12	_	1988	8	3
St. Louis, MO	1952	3	10	Little Rock, AR	1970	8	13
	1932	3	29	_	1932	8	16
	1934	3	0	_	1934	8	0
	2006	1	1		2006	1	0
	1988	1	10	-	1988	1	6
	1988	1	0	_	1988	1	2
Des Moines, IA	1970	1	1	Springfield, IL	1970	1	1
	1932	1	26		1952	1	18
	1934	1	4	_	1934	1	7
		2			2006	0	0
	2006		5	-		-	7
	1988 1970	2	6	_	1988 1970	0	0
Omaha, NE		2	8	Chicago, IL		-	-
	1952				1952	2 0 4 0	1
	1934	2	26	-	1934	-	4
	1916				1916	0	
	2006	13	16		2006	0	1
	1988	13	24	_	1988	0	4
Wichita, KS	1970	13	23	Minneapolis/St. Paul, MN	1970	0	0
	1952	13	16 40	_	1952	0	0
	1934	13		_	1934	-	5
	1916	13	3		1916	0	0
	2006	16	19		2006	1	5
	1988	16	13	Abard CD	1988	1	14
Dodge City, KS	1970	16	21	Aberdeen, SD	1970	1	3
	1952	16	22		1952	1	1
	1934	16	42		1934	1	12
	1916	16	3		1916	1	0
	2006	13	38		2006	5	15
	1988	13	5	Paulid office on	1988	5	16
Oklahoma City, OK	1970	13	23	Rapid City, SD	1970	5	2
•	1952	13	18		1952	5	1
	1934	13	45		1934	5	M
	1916	13	11		1916	5	M
	2006	16	22		2006	1	1
	1988	16	4		1988	1	14
Lubbock, Tx	1970	16	13	Sioux Falls, SD	1970	1	2
	1952	16	5		1952	1	0
	1934	16	29		1934	1	10
	1916	16	6		1916	1	0

<u>Adding the number of excessive heat days from the table above to the already</u> warmer-biased July weather resulting from the warmer-than-usual Februarys study

<u>raises the level of confidence that summer 2024 might be a warmer than usual summer</u> with some excessive heat in it.

La Nina summers also have a tendency to be warmer than usual which certainly adds support to the idea that 2024 may be a more challenging summer for crops in the Plains and western Midwest with some concern for the Delta as well.

<u>The wild card in this commentary remains the Hunga Tonga Volcano.</u> The media covered this event for about 3 days in 2022 and there has been very little coverage since then. However, research scientists in spring 2022 suggested water vapor that was shot up from this under water volcano reached 36 miles up into the atmosphere resulting in a 10% increase in stratospheric moisture. That moisture was theorized to result in a warmer than usual atmosphere for five years with one of the five years being so far anomalously warm that the trend would surpass the climate change trends of recent decades and that is exactly what happened in 2023 and may still be occurring in the Southern Hemisphere in early 2024.

Even though the spike of atmospheric heating from the volcano may have peaked in 2023, there is a fair chance that the atmosphere will still have some anomalously warm biased conditions lingering in 2024 and possibly 2025. For this year, however, <u>adding a little more atmospheric warmth to a pattern that is already advertised to be warmer and drier than usual in the central parts of the United States lends a little more credence to the prospects that this summer may be hot enough to threaten crop development.</u>

CONCLUSION

There are never any assurances that a forecast of warmer and drier than usual weather for the central United States will verify just because of some analog years of data, but one cannot fully turn their backs on the evidence presented here. <u>There are actually</u> four different sources of warmth playing into the forecast including; the lunar cycle, the Hunga Tonga Volcano, La Nina and the association between February and July warmth. The most worrisome part of the study was the number of excessive heat days that not only appeared in one of the lunar cycle years, but to some degree in all six lunar cycle years and in five them in particular.

World Weather, Inc. believes there is at least enough evidence presented here to induce a bias for a warmer and drier than usual summer. That does not mean a crop disaster, but it raises awareness of the potential for more crop struggles in the Plains and western Corn and Soybean Belt this summer than in recent past years. Crop yield declines occur more often in the hotter than usual summers than in the cooler than usual ones even when both are dominated by below normal precipitation.

Spring will be another key to the potential issues for summer. If rainfall is lighter than usual during the spring and temperatures are already warm biased there would be additional concern for this year's production. A dry spring with above normal temperatures might already have low soil moisture in place for many areas when summer comes around and adding excessive heat in the summer and continuing limited rain could be stressful for dryland crops raising the potential for production cuts. The 18-year cycle data does suggest some lighter than usual precipitation and warmer than usual temperature biases in place for spring in the Plains and Midwest, but the anomalies were not nearly as significant as that which showed up for the summer months in the Plains and western Corn Belt.

Not to scare anyone too much, it is important to note that the 2012 drought year started off with persistently warmer biased weather throughout the late winter and spring. The heat got started so early in the growing season that there was no chance for precipitation to occur in great enough quantities to prevent dryness from threatening crops. *Every year is different, but the evidence for hot weather presented here needs to be strongly considered for 2024.*

World Weather, Inc. forecasts and comments pertaining to present, past and future weather conditions included in this report constitute the corporation's judgment as of the date of this report and are subject to change without notice. Comments regarding damage or the impact of weather on agricultural and energy as well as comments made regarding the impact of weather on the commodity and financial markets are the explicit opinions of World Weather, Inc. World Weather, Inc. can not be held responsible for decisions made by users of the Corporation's information in any business, trade or investment decision.

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