## Regional Tennessee Corn and Soybean Basis

W. Hence Duncan, Graduate Student
Becky Bowling, Extension Specialist
S. Aaron Smith, Associate Professor and Extension Economist, Department of Agricultural and Resource Economics

For Tennessee crop producers, it is important to understand what basis is and how to use it to manage risk and improve cash prices received for corn and soybeans. The cash price reflects local supply and demand, quality, storage capacity, storage costs, and shipping charges. Basis is calculated by taking the cash price and subtracting the futures price for the commodity. For example, if the cash price of corn is \$5.00/bu and the futures price is \$4.85/bu the basis is +\$0.15/bu (\$5.00 minus \$4.85= +\$0.15 or 15 over) or if the cash price of corn is \$4.65/bu and the futures price is \$4.85/bu the basis is -\$0.20/bu (\$4.65 minus \$4.85= -\$0.20 or 20 under).



Basis often follows seasonal patterns with weaker (more negative or less positive) basis typically at harvest and stronger (more positive or less negative) basis outside of the harvest interval (Figures 1 to 8). Seasonal patterns in basis occur due to larger local supplies during, or immediately following harvest, followed by declining supplies through the remainder of the marketing year. Producers can use typical seasonal basis movements to obtain higher prices and manage their price risk. Typically, historical trends in basis are more predictable than historical trends in futures markets.

This publication provides examples of calculating basis and presents historical and 2022 basis for regions in Tennessee reported by US Department of Agriculture (USDA) — Agricultural Marketing Service (AMS) for elevators and barge points. It is important to note that prices and basis in this publication do not include cash or basis offerings by poultry companies, ethanol facilities, or distilleries, which are important markets for corn and soybean producers in Tennessee (where substantial price premiums may be available for on demand sales and delivery).



## **Definitions:**

TERM	DEFINITION
Basis	The cash price (local market price) minus the futures price (Chicago Mercantile Exchange (CME) board price).
Cash Price	A price determined in a market in which corn and soybeans are bought and sold (spot price).
Futures Price	A price determined by a centralized market where traders buy and sell futures contracts. Numerous futures contracts for the same commodity are simultaneously traded. For example, corn futures contracts include March, May, July, September, and December for multiple years.
Weakening Basis	When the difference between the cash price of a commodity and the futures price of the commodity becomes more negative or less positive.
Strengthening Basis	When the difference between the cash price of a commodity and the futures price of the commodity becomes more positive or less negative.
Above-the-Board	When the local cash price is greater than the futures price (positive basis).
Below-the-Board	When the local cash price is lower than the futures price (negative basis).
Basis Contract	A marketing contract that allows a producer to establish a basis price based on the spread between the cash and the futures market.
Hedge-to-Arrive	A marketing contract that allows the producer to establish a futures price and leave basis open until a later date.



CALCULATING BASIS	CORN EXAMPLES
Cash Price	\$4.48/bu
Sep Futures Price	\$5.24/bu
Basis	-\$0.76/bu

CALCULATING BASIS	CORN EXAMPLES
Cash Price	\$6.97/bu
May Futures Price	\$6.72/bu
Basis	\$0.25/bu



CALCULATING BASIS	SOYBEAN EXAMPLES
Cash Price	\$13.45/bu
Sep Futures Price	\$13.90/bu
Basis	-\$0.45/bu

CALCULATING BASIS	SOYBEAN EXAMPLES
Cash Price	\$14.80/bu
May Futures Price	\$14.50/bu
Basis	\$0.30/bu

## **Tennessee Corn Basis**

Figure 1. Northwest Tennessee Corn Basis at Elevators and Barge Points

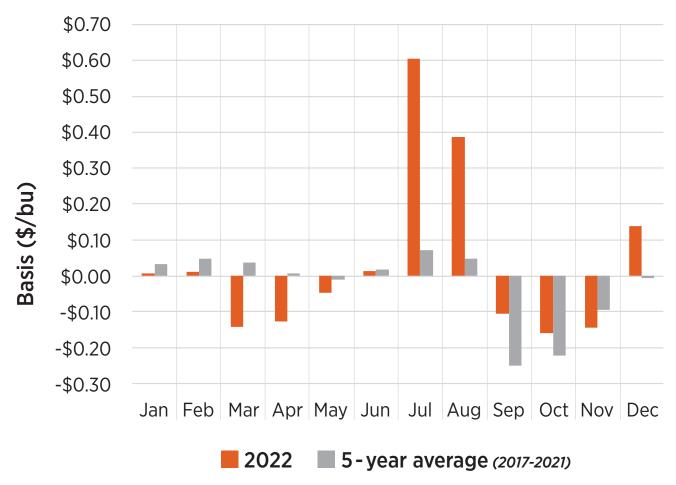


Table 1. Northwest Tennessee Corn Basis at Elevators and Barge Points

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
2013	\$0.09	\$0.21	\$0.34	\$0.24	\$0.55	\$0.43	\$1.73	\$0.31	-\$0.23	-\$0.27	-\$0.19	-\$0.05
2014	\$0.04	\$0.06	\$0.02	\$0.04	\$0.00	\$0.01	\$0.02	-\$0.03	-\$0.32	-\$0.40	-\$0.30	-\$0.17
2015	-\$0.07	-\$0.05	-\$0.07	\$0.01	\$0.04	\$0.08	-\$0.09	-\$0.20	-\$0.26	-\$0.19	\$0.02	\$0.05
2016	\$0.00	-\$0.01	\$0.00	\$0.00	-\$0.03	-\$0.02	-\$0.01	-\$0.04	-\$0.18	-\$0.16	-\$0.08	-\$0.03
2017	\$0.03	-\$0.04	-\$0.06	-\$0.04	-\$0.06	-\$0.08	-\$0.20	-\$0.20	-\$0.30	-\$0.27	-\$0.20	-\$0.17
2018	-\$0.09	-\$0.05	-\$0.09	-\$0.10	-\$0.13	-\$0.11	-\$0.19	-\$0.17	-\$0.27	-\$0.19	-\$0.10	-\$0.07
2019	-\$0.07	\$0.01	\$0.00	\$0.00	-\$0.02	\$0.02	\$0.11	\$0.12	-\$0.21	-\$0.27	-\$0.03	\$0.11
2020	\$0.16	\$0.11	\$0.09	-\$0.07	-\$0.06	\$0.03	\$0.09	\$0.05	-\$0.12	-\$0.01	\$0.10	\$0.09
2021	\$0.13	\$0.20	\$0.26	\$0.24	\$0.22	\$0.22	\$0.54	\$0.44	-\$0.36	-\$0.37	-\$0.25	\$0.01
2022	\$0.01	\$0.01	-\$0.14	-\$0.13	-\$0.05	\$0.01	\$0.61	\$0.39	-\$0.10	-\$0.16	-\$0.14	\$0.14
5-Yr Avg.	\$0.03	\$0.05	\$0.04	\$0.01	-\$0.01	\$0.02	\$0.07	\$0.05	-\$0.25	-\$0.22	-\$0.10	-\$0.01

Figure 2. North Central Tennessee Corn Basis at Elevators and Barge Points



Table 2. North Central Tennessee Corn Basis at Elevators and Barge Points

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
2013	\$0.16	\$0.23	\$0.33	\$0.20	\$0.42	\$0.37	\$1.01	\$0.42	-\$0.16	-\$0.27	-\$0.21	-\$0.02
2014	\$0.02	\$0.05	\$0.00	\$0.02	\$0.09	\$0.11	\$0.07	\$0.05	-\$0.21	-\$0.36	-\$0.28	-\$0.16
2015	-\$0.07	-\$0.01	\$0.01	\$0.05	\$0.05	\$0.07	-\$0.11	-\$0.14	-\$0.33	-\$0.30	-\$0.10	-\$0.14
2016	-\$0.04	-\$0.01	\$0.03	\$0.02	-\$0.01	\$0.01	\$0.00	-\$0.08	-\$0.20	-\$0.19	-\$0.16	-\$0.07
2017	\$0.01	\$0.01	-\$0.01	\$0.00	-\$0.02	-\$0.03	-\$0.11	-\$0.13	-\$0.30	-\$0.39	-\$0.16	-\$0.21
2018	\$0.00	\$0.02	-\$0.06	-\$0.02	-\$0.07	-\$0.03	-\$0.06	-\$0.12	-\$0.31	-\$0.27	-\$0.12	-\$0.10
2019	-\$0.03	\$0.02	\$0.03	\$0.04	\$0.02	\$0.14	\$0.15	\$0.22	-\$0.32	-\$0.29	-\$0.12	-\$0.04
2020	\$0.04	\$0.14	\$0.14	\$0.18	\$0.09	\$0.15	\$0.17	\$0.09	-\$0.19	-\$0.17	-\$0.21	-\$0.06
2021	\$0.05	\$0.05	\$0.13	\$0.18	\$0.38	\$0.17	\$0.90	\$0.46	-\$0.42	-\$0.44	-\$0.35	-\$0.20
2022	-\$0.15	-\$0.06	-\$0.26	-\$0.35	-\$0.35	-\$0.27	\$0.80	\$0.07	-\$0.24	-\$0.65	-\$0.56	-\$0.50
5-Yr Avg.	\$0.02	\$0.05	\$0.05	\$0.08	\$0.08	\$0.08	\$0.21	\$0.10	-\$0.31	-\$0.31	-\$0.19	-\$0.12

Figure 3. West Tennessee Corn Basis at Elevators and Barge Points

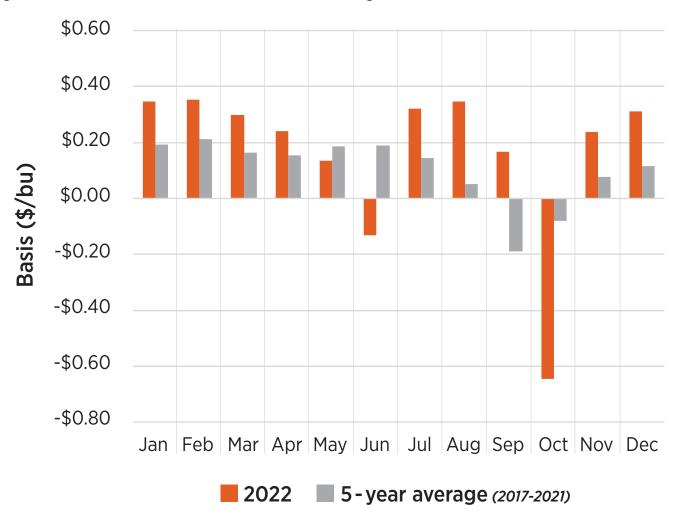


Table 3. West Tennessee Corn Basis at Elevators and Barge Points

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
2013	\$0.15	\$0.20	\$0.21	\$0.14	\$0.37	\$0.31	\$0.89	-\$0.15	-\$0.19	-\$0.11	\$0.07	\$0.24
2014	\$0.25	\$0.25	\$0.16	\$0.17	\$0.15	\$0.21	\$0.12	\$0.08	-\$0.21	-\$0.27	\$0.10	\$0.04
2015	\$0.13	\$0.17	\$0.15	\$0.15	\$0.15	\$0.11	\$0.00	-\$0.11	-\$0.22	-\$0.13	\$0.18	\$0.11
2016	\$0.13	\$0.10	\$0.11	\$0.11	\$0.07	\$0.06	\$0.15	\$0.01	-\$0.07	-\$0.05	\$0.04	\$0.06
2017	\$0.20	\$0.16	\$0.09	\$0.07	\$0.04	-\$0.01	-\$0.11	-\$0.09	-\$0.29	-\$0.23	-\$0.01	-\$0.02
2018	\$0.16	\$0.17	\$0.03	\$0.03	\$0.08	\$0.09	\$0.05	-\$0.01	-\$0.23	-\$0.14	\$0.04	\$0.01
2019	\$0.01	\$0.12	\$0.05	\$0.07	\$0.12	\$0.18	\$0.10	-\$0.15	-\$0.23	-\$0.10	\$0.15	\$0.10
2020	\$0.18	\$0.21	\$0.25	\$0.18	\$0.16	\$0.19	\$0.24	\$0.12	\$0.14	\$0.23	\$0.14	\$0.28
2021	\$0.41	\$0.39	\$0.40	\$0.42	\$0.54	\$0.50	\$0.44	\$0.39	-\$0.34	-\$0.16	\$0.06	\$0.21
2022	\$0.35	\$0.35	\$0.30	\$0.24	\$0.14	-\$0.13	\$0.32	\$0.35	\$0.17	-\$0.64	\$0.24	\$0.31
5-Yr Avg.	\$0.19	\$0.21	\$0.16	\$0.16	\$0.19	\$0.19	\$0.14	\$0.05	-\$0.19	-\$0.08	\$0.08	\$0.12

Figure 4. Memphis, Tennessee Corn Basis at Elevators and Barge Points

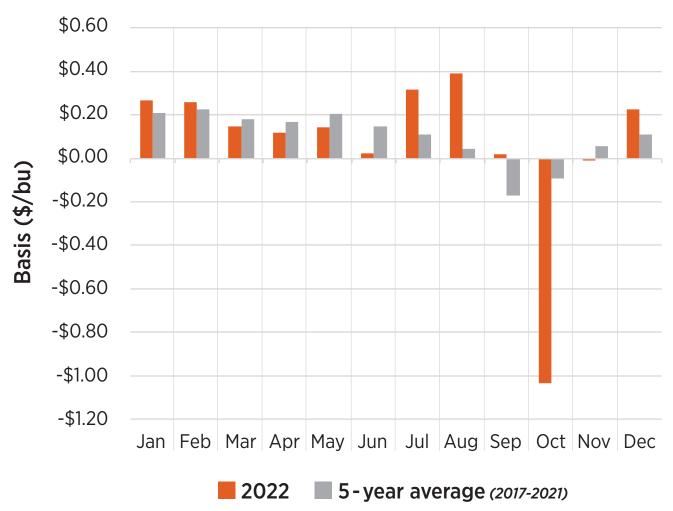


Table 4. Memphis, Tennessee Corn Basis at Elevators and Barge Points

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
2013	\$0.19	\$0.25	\$0.30	\$0.17	\$0.42	\$0.34	\$0.89	\$0.03	-\$0.15	-\$0.06	\$0.13	\$0.27
2014	\$0.28	\$0.32	\$0.25	\$0.24	\$0.21	\$0.31	\$0.17	\$0.16	-\$0.12	-\$0.19	\$0.15	\$0.11
2015	\$0.17	\$0.20	\$0.20	\$0.22	\$0.21	\$0.17	\$0.05	-\$0.09	-\$0.19	-\$0.11	\$0.17	\$0.10
2016	\$0.08	\$0.03	\$0.09	\$0.05	\$0.05	\$0.03	\$0.26	\$0.16	-\$0.02	-\$0.04	\$0.06	\$0.08
2017	\$0.19	\$0.19	\$0.11	\$0.08	\$0.04	\$0.01	-\$0.10	-\$0.06	-\$0.22	-\$0.19	\$0.00	-\$0.01
2018	\$0.18	\$0.18	\$0.08	\$0.08	\$0.16	\$0.13	\$0.08	\$0.05	-\$0.14	-\$0.07	\$0.05	\$0.04
2019	\$0.06	\$0.17	\$0.11	\$0.12	\$0.12	\$0.12	\$0.06	-\$0.13	-\$0.15	-\$0.05	\$0.18	\$0.10
2020	\$0.22	\$0.24	\$0.24	\$0.21	\$0.16	\$0.18	\$0.17	\$0.08	\$0.09	\$0.17	\$0.08	\$0.28
2021	\$0.38	\$0.35	\$0.36	\$0.35	\$0.53	\$0.29	\$0.33	\$0.28	-\$0.44	-\$0.32	-\$0.03	\$0.14
2022	\$0.27	\$0.26	\$0.15	\$0.12	\$0.14	\$0.02	\$0.32	\$0.39	\$0.02	-\$1.03	-\$0.01	\$0.23
5-Yr Avg.	\$0.21	\$0.23	\$0.18	\$0.17	\$0.20	\$0.14	\$0.11	\$0.04	-\$0.17	-\$0.09	\$0.06	\$0.11

Figure 5. Northwest Tennessee Soybean Basis at Elevators and Barge Points

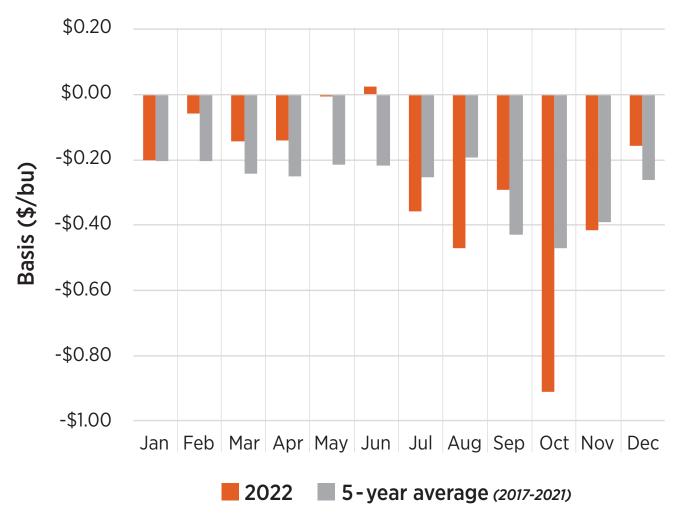


Table 5. Northwest Tennessee Soybean Basis at Elevators and Barge Points

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
2013	\$0.26	\$0.08	\$0.20	\$0.03	\$0.61	\$0.41	\$1.12	-\$0.55	-\$0.09	-\$0.25	-\$0.21	-\$0.03
2014	\$0.25	\$0.00	-\$0.06	-\$0.12	-\$0.07	-\$0.03	\$0.42	\$0.42	-\$0.06	-\$0.32	-\$0.13	\$0.04
2015	\$0.00	\$0.01	\$0.02	-\$0.01	\$0.08	\$0.18	\$0.10	\$0.14	-\$0.07	-\$0.16	\$0.00	\$0.04
2016	\$0.04	-\$0.02	-\$0.16	-\$0.21	-\$0.39	-\$0.36	-\$0.29	-\$0.13	-\$0.10	-\$0.19	-\$0.27	-\$0.25
2017	-\$0.23	-\$0.28	-\$0.33	-\$0.34	-\$0.34	-\$0.33	-\$0.39	-\$0.31	-\$0.38	-\$0.43	-\$0.35	-\$0.29
2018	-\$0.21	-\$0.22	-\$0.38	-\$0.39	-\$0.36	-\$0.30	-\$0.34	-\$0.29	-\$0.28	-\$0.73	-\$0.62	-\$0.51
2019	-\$0.49	-\$0.44	-\$0.45	-\$0.47	-\$0.48	-\$0.42	-\$0.44	-\$0.42	-\$0.62	-\$0.51	-\$0.27	-\$0.23
2020	-\$0.13	-\$0.13	-\$0.11	-\$0.09	-\$0.08	-\$0.05	-\$0.01	\$0.04	-\$0.13	-\$0.08	-\$0.26	-\$0.09
2021	\$0.04	\$0.04	\$0.05	\$0.05	\$0.18	\$0.01	-\$0.09	\$0.01	-\$0.58	-\$0.60	-\$0.45	-\$0.19
2022	-\$0.20	-\$0.06	-\$0.14	-\$0.14	-\$0.01	\$0.02	-\$0.36	-\$0.47	-\$0.29	-\$0.91	-\$0.42	-\$0.16
5-Yr Avg.	-\$0.20	-\$0.20	-\$0.24	-\$0.25	-\$0.21	-\$0.22	-\$0.25	-\$0.19	-\$0.43	-\$0.47	-\$0.39	-\$0.26

Figure 6. North Central Tennessee Soybean Basis at Elevators and Barge Points

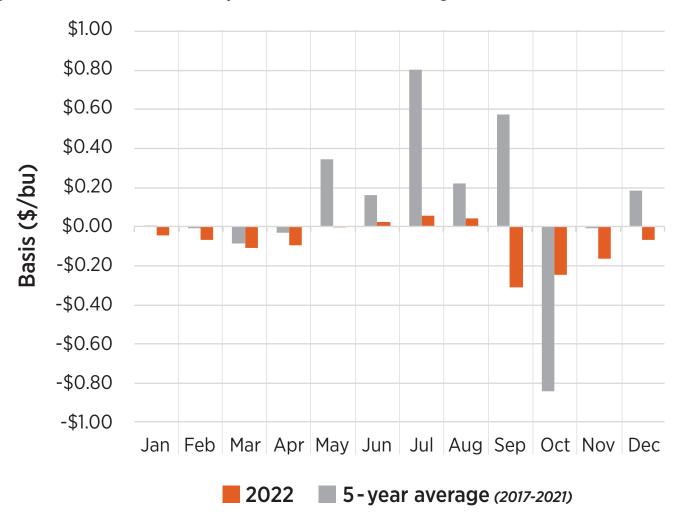


Table 6. North Central Tennessee Soybean Basis at Elevators and Barge Points

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
2013	\$0.54	\$0.32	\$0.35	\$0.24	\$0.64	\$0.19	\$0.66	-\$0.30	\$0.13	-\$0.02	-\$0.12	\$0.23
2014	\$0.42	\$0.14	\$0.00	-\$0.03	\$0.11	\$0.09	\$0.31	\$0.06	\$0.16	-\$0.06	-\$0.03	\$0.24
2015	\$0.17	\$0.17	\$0.19	\$0.15	\$0.19	\$0.19	\$0.19	-\$0.10	-\$0.06	-\$0.04	\$0.03	\$0.02
2016	\$0.13	\$0.06	-\$0.03	-\$0.09	-\$0.20	-\$0.23	-\$0.11	\$0.03	-\$0.02	-\$0.13	-\$0.26	-\$0.07
2017	-\$0.08	-\$0.13	-\$0.20	-\$0.19	-\$0.16	-\$0.12	-\$0.15	-\$0.12	-\$0.18	-\$0.37	-\$0.34	-\$0.23
2018	-\$0.07	-\$0.13	-\$0.27	-\$0.25	-\$0.18	-\$0.11	-\$0.03	-\$0.28	-\$0.67	-\$0.50	-\$0.36	-\$0.28
2019	-\$0.35	-\$0.26	-\$0.29	-\$0.28	-\$0.20	-\$0.02	\$0.00	-\$0.05	-\$0.43	-\$0.28	\$0.06	\$0.10
2020	\$0.10	\$0.09	\$0.14	\$0.20	\$0.18	\$0.21	\$0.23	\$0.27	\$0.05	\$0.19	-\$0.15	\$0.00
2021	\$0.18	\$0.10	\$0.08	\$0.04	\$0.32	\$0.17	\$0.23	\$0.38	-\$0.34	-\$0.27	-\$0.04	\$0.07
2022	\$0.01	-\$0.01	-\$0.09	-\$0.03	\$0.35	\$0.16	\$0.80	\$0.22	\$0.58	-\$0.84	-\$0.01	\$0.18
5-Yr Avg.	-\$0.04	-\$0.07	-\$0.11	-\$0.09	\$0.00	\$0.03	\$0.06	\$0.04	-\$0.31	-\$0.25	-\$0.16	-\$0.07

Figure 7. West Tennessee Soybean Basis at Elevators and Barge Points

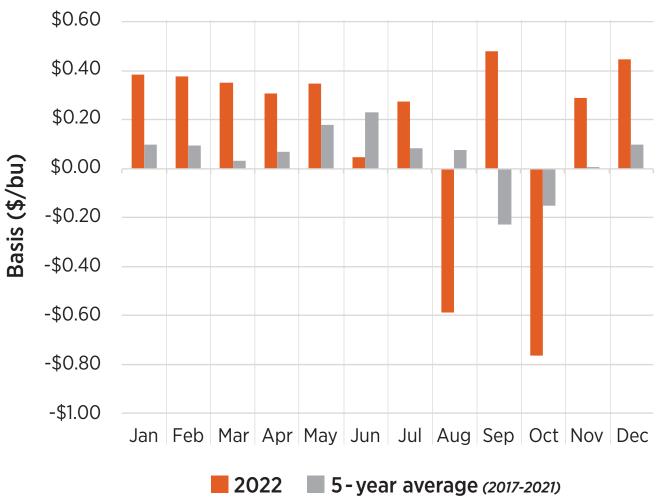


Table 7. West Tennessee Soybean Basis at Elevators and Barge Points

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
2013	\$0.68	\$0.37	\$0.38	\$0.22	\$0.60	\$0.17	\$0.49	-\$0.63	\$0.09	\$0.15	\$0.22	\$0.49
2014	\$0.59	\$0.35	\$0.10	\$0.05	\$0.13	\$0.13	\$0.39	-\$0.30	\$0.17	\$0.19	\$0.28	\$0.44
2015	\$0.32	\$0.30	\$0.22	\$0.15	\$0.18	\$0.18	\$0.12	\$0.00	\$0.17	\$0.13	\$0.25	\$0.29
2016	\$0.29	\$0.18	\$0.08	\$0.00	-\$0.12	\$0.02	\$0.19	\$0.13	\$0.20	\$0.01	-\$0.05	\$0.10
2017	\$0.08	\$0.06	-\$0.05	-\$0.03	\$0.08	\$0.05	\$0.07	\$0.16	-\$0.09	-\$0.27	-\$0.10	-\$0.04
2018	\$0.10	\$0.02	-\$0.13	-\$0.03	\$0.06	\$0.06	\$0.05	-\$0.23	-\$0.59	-\$0.45	-\$0.23	-\$0.22
2019	-\$0.27	-\$0.18	-\$0.19	-\$0.16	-\$0.04	\$0.11	\$0.10	-\$0.09	-\$0.38	-\$0.10	\$0.17	\$0.23
2020	\$0.20	\$0.23	\$0.22	\$0.25	\$0.23	\$0.29	\$0.29	\$0.30	\$0.28	\$0.26	\$0.09	\$0.26
2021	\$0.37	\$0.34	\$0.32	\$0.31	\$0.57	\$0.63	-\$0.08	\$0.24	-\$0.35	-\$0.20	\$0.12	\$0.25
2022	\$0.38	\$0.38	\$0.35	\$0.31	\$0.35	\$0.05	\$0.27	-\$0.59	\$0.48	-\$0.76	\$0.29	\$0.45
5-Yr Avg.	\$0.10	\$0.09	\$0.03	\$0.07	\$0.18	\$0.23	\$0.08	\$0.07	-\$0.23	-\$0.15	\$0.01	\$0.10

Figure 8. Memphis, Tennessee Soybean Basis at Elevators and Barge Points

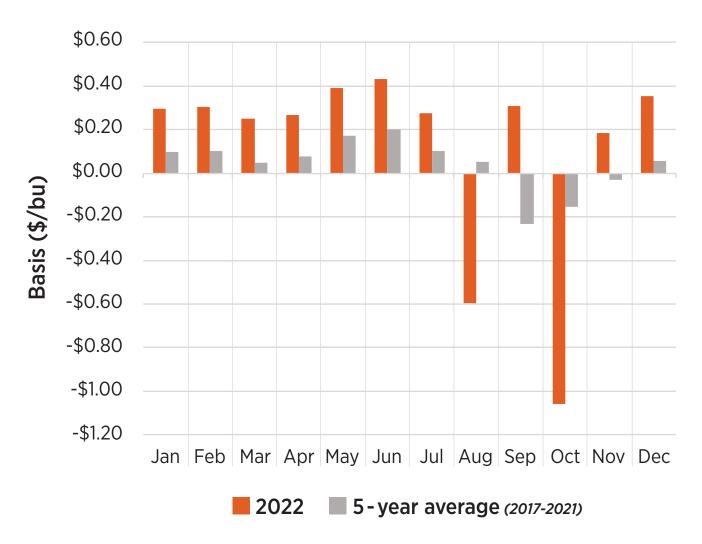


Table 8. Memphis, Tennessee Soybean Basis at Elevators and Barge Points

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
2013	\$0.66	\$0.38	\$0.37	\$0.34	\$0.64	\$0.20	\$0.62	-\$0.22	\$0.15	\$0.26	\$0.27	\$0.51
2014	\$0.60	\$0.42	\$0.18	\$0.12	\$0.21	\$0.19	\$0.29	\$0.34	\$0.32	\$0.34	\$0.39	\$0.50
2015	\$0.38	\$0.36	\$0.27	\$0.23	\$0.31	\$0.26	\$0.19	\$0.13	\$0.25	\$0.14	\$0.26	\$0.26
2016	\$0.22	\$0.08	\$0.08	\$0.02	-\$0.06	\$0.07	\$0.32	\$0.33	\$0.35	\$0.02	-\$0.03	\$0.11
2017	\$0.05	\$0.08	-\$0.04	-\$0.02	\$0.07	\$0.07	\$0.08	\$0.19	-\$0.04	-\$0.20	-\$0.09	-\$0.03
2018	\$0.11	\$0.05	-\$0.07	\$0.03	\$0.09	\$0.10	\$0.03	-\$0.24	-\$0.55	-\$0.37	-\$0.30	-\$0.24
2019	-\$0.22	-\$0.14	-\$0.13	-\$0.16	-\$0.03	\$0.11	\$0.06	-\$0.09	-\$0.29	-\$0.09	\$0.21	\$0.09
2020	\$0.19	\$0.23	\$0.22	\$0.27	\$0.23	\$0.30	\$0.30	\$0.26	\$0.20	\$0.21	-\$0.02	\$0.25
2021	\$0.36	\$0.29	\$0.26	\$0.27	\$0.49	\$0.43	\$0.05	\$0.15	-\$0.47	-\$0.34	\$0.04	\$0.21
2022	\$0.29	\$0.30	\$0.25	\$0.27	\$0.39	\$0.43	\$0.27	-\$0.60	\$0.31	-\$1.06	\$0.18	\$0.35
5-Yr Avg.	\$0.10	\$0.10	\$0.05	\$0.08	\$0.17	\$0.20	\$0.10	\$0.05	-\$0.23	-\$0.16	-\$0.03	\$0.06

## References:

Barchart.com. Corn and Soybean Futures Prices. Accessed online:

https://www.barchart.com/futures/grains?viewName=main

Chicago Mercantile Exchange (CME) Group. January 2020. "Self-Study Guide to Hedging with Grain and Oilseed Futures and Options." Accessed online at:

• https://www.cmegroup.com/trading/agricultural/files/pm255\_self-study-guide\_hedging\_en\_2019.pdf

Hofstrand, Don. 2009. "Corn and Soybean Price Basis." Iowa State University Extension. Accessed online:

https://www.extension.iastate.edu/agdm/crops/html/a2-40.html

Hofstrand, Don, and Robert Wisner. 2005. "Grain Marketing Terms." Iowa State University Extension. Accessed online:

https://www.extension.iastate.edu/agdm/crops/pdf/a2-05.pdf

USDA Agricultural Marketing Service (AMS). 2022. "State Grain Reports (Tennessee)." Accessed online:

• https://www.ams.usda.gov/mnreports/ams\_3088.pdf



UTIA.TENNESSEE.EDU

Real. Life. Solutions."