

Cocoa

Prepared by Foresight
December 7, 2021

TABLES

Cocoa Bean Price Forecast.....	P. 4
World Cocoa Supply/Demand, Crop Year.....	P. 7
World Cocoa Production.....	P. 8
Cocoa Crops in Major Producing Countries	P. 9
World Grindings of Raw Cocoa	P. 12
Quarterly Cocoa Grind for Major Countries.....	P. 17
Cocoa Bean Prices: Average Daily Nearby Futures Closes	P. 18
10/12 % Natural Cocoa Powder Prices, NYC	P. 20
Ratio of 10/12% Natural Cocoa Powder Prices to Cocoa Bean Prices	P. 22
Cocoa Butter Prices.....	P. 24
Ratio of Cocoa Butter Prices to Cocoa Bean Prices	P. 26

CHARTS

March 2022 Cocoa Futures	P. 5
May 2022 Cocoa Futures	P. 6
World Cocoa Production.....	P. 10
World Cocoa Production--Four Largest Countries	P. 11
World Cocoa Grind	P. 13
World Cocoa Production, Grind, & Stock Changes.....	P. 14
World Cocoa Carryover Stocks	P. 15
World Cocoa Stocks-to-Grind Ratio	P. 16
Cocoa Bean Prices (Nearby Futures)	P. 19
10/12 % Natural Cocoa Powder Prices	P. 21
Cocoa Powder to Bean Ratio	P. 23
Cocoa Butter Prices.....	P. 25
Cocoa Butter to Bean Ratio.....	P. 27

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Cocoa Supply – Demand Outlook and Strategy Update

Futures Price Update:

- March futures prices firmed to around \$2485 a tonne in early December, \$5 above a month ago, but \$150 below a year ago.
- March futures prices have ranged from \$2333-2602 a tonne in the past month.

Key Supply – Demand Factors:

- The International Cocoa Organization (ICCO) last week estimated that there was a global cocoa surplus of 212 thousand tonnes for the 2020/21 season, down from a previous projection of 230 thousand tonnes.
- Cocoa arrivals at ports in Ivory Coast reached about 747 thousand tonnes by December 5, down 10.1 percent from a year earlier, exporters estimated.
- The main cocoa crop harvest has improved in Nigeria from a month ago, officials and traders said last week.
- Ivory Coast's main cocoa crop is likely to finish low, buyers and farmers said.
- The government of Ivory Coast is in a battle to save cocoa-ravaged forests, European Union officials say.

Summary of Key Factors:

- The International Cocoa Organization last week estimated that there was a global cocoa surplus of 212 thousand tonnes for the 2020/21 season, down from a previous projection of 230 thousand tonnes. The ICCO forecast 2020/21 global cocoa production at a record 5,175 thousand tonnes, 34 thousand above its previous forecast, and 9.3 percent above a year earlier. Production in Africa surged during the season, with record crops in both Ivory Coast and Ghana. The ICCO increased its cocoa production estimates slightly for Ivory Coast and Ghana, but lowered its forecast of Indonesia's cocoa production by 20 thousand tonnes to 180 thousand. Dry weather and farmers switching to other crops caused the reduction in Indonesia's crop forecast. The ICCO forecast 2020/21 global cocoa grindings at 4,911 thousand tonnes, 51 thousand above its previous forecast, and 4.3 percent above the 2019/20 season. The opening of economies worldwide in 2021 boosted global grindings.

- Cocoa arrivals at ports in Ivory Coast reached about 747 thousand tonnes by December 5 since the start of the season on October 1, exporters estimated, down 10.1 percent from 831 thousand over the same period last season. Arrivals in the week ending December 5 of around 80 thousand tonnes were down from 91 thousand during the same week last season. Rains were below average in the week ending December 5 in most of Ivory Coast's cocoa-growing regions, with more needed to ensure the harvest is strong in February and March, farmers said. Ivory Coast is in its dry season from mid-November to March, when downpours are scarce. Farmers across the country said soil moisture remains high and that leaves are green on the cocoa trees, with plenty of pods ready to be harvested in January. In the center-western region of Daloa and the central region of Bongouanou, where rains were below average last week, farmers said that intermittent rainfall this month would help to extend the harvest into February and March. We estimate Ivory Coast's 2021/22 cocoa main crop at 1,650 thousand tonnes, about 110 thousand below a year earlier.
- The main cocoa crop harvest has improved in Nigeria from a month ago, officials and traders said last week. They attributed the higher cocoa production in both the southwest and southeast regions to ample rainfall in September through mid-November which boosted the development of the crop. Favorable weather conditions in recent months have bolstered cocoa crop prospects following a delay in rainfall earlier in the year, a cocoa trader said. The peak harvest of the main crop normally seen in November/December is shifting to December/January in the key southwest region and may continue into March. Nigeria's cocoa production in the 2021/22 season is forecast at 275 thousand tonnes, according to the president of the Cocoa Association of Nigeria. A cocoa processing factory has begun operations in Nigeria's Ondo state, the country's largest cocoa producer, a senior official said. The factory has a production capacity of 15 thousand tonnes per year. Around 80 percent of Nigeria's annual cocoa production is exported as raw beans due to low processing capacity in the country.
- Cocoa production in Ivory Coast is down 10 percent from the same period last season, port arrival figures show, and farmers and buyers worry the trend could continue through the end of the main crop harvest. More than two dozen farmers and buyers interviewed by Reuters in Ivory Coast's primary cocoa-producing regions said output is already declining. What was thought to be a slow start to the season could persist through March, with pods and flowers developing much slower than in previous years, they said. One farmer said he harvested seven bags of cocoa in October, down from 15 during the same period in 2020. In November, he filled five bags after harvesting 13 last year. November's weak production performance has left buyers and middlemen at the country's main ports pessimistic for the rest of the season. December cocoa production may not recover significantly as farmers have just a few beans drying and few pods in the field.
- The government of Ivory Coast has been cracking down on cocoa cultivators after decades of intensive and often illicit farming which has decimated its tropical forests. Leading chocolate and cocoa companies are meanwhile monitoring their own supply chains for illicitly grown cocoa. However, conservation efforts are falling short, European Union officials say. The bloc's executive arm has proposed legislation that would compel companies to find and fix environmental and human rights risks in their international supply chains -- or face penalties. Companies would be restricted from sourcing beans on land deforested after a certain date. The legislation is expected to pass in some form as soon as 2022. Chocolate and cocoa companies say they support new regulations, but dispute that their efforts have failed. The companies told Reuters that their supply chain monitoring systems, satellite surveillance, and third-party certification give them assurance that the beans they source do not come from protected forests or other illegal farming operations. Tracing the origin of cocoa beans is extremely difficult, in part because co-ops regularly buy from growers who are not members.

Price Risk:

- Ivory Coast's 2021/22 main crop cocoa arrivals remain well below a year earlier. Ideas Ivory Coast's cocoa production may fall below expectations will support cocoa futures prices in upcoming months.
- The new Omicron coronavirus variant has raised concerns about a possible slowdown in global economic growth. Worries about weakening global economic activity will weigh on cocoa futures prices in the months ahead.

Historical Price Action:

- Nearby cocoa futures prices in November averaged \$2453 a tonne, down \$180 from a month earlier, and \$172 below the November, 2020 average.
- In 6 of the past 10 years, nearby cocoa futures have decreased from December through April.

Price Outlook:

- Nearby cocoa futures prices in December-March are forecast to average \$2435-2510 a tonne compared with \$2549 a year earlier.
- For April-June, nearby futures prices are forecast to average \$2425-2500 a tonne compared with \$2401 a year earlier.

Coverage Recommendations: Cocoa, Cocoa Powder, and Cocoa Butter

Cocoa Futures:

Upper Tier: > \$2500 a tonne -- add coverage two weeks at a time to keep 4 weeks out

Middle Tier: \$2425-2500 a tonne -- add coverage to keep 8-12 weeks out

Lower Tier: \$2350-2425 a tonne -- add coverage for an additional 4-6 weeks

Cocoa Products Price Outlook:

- 10/12 natural powder prices averaged 135 cents a pound in November, up 1 cent from a month earlier, and 40 cents above a year earlier. Prices in early December were about 135 cents a pound. Powder prices are forecast to average 133-140 cents a pound in December-March compared with 95 cents a year earlier. Powder ratios in December-March may average 1.18-1.23 times nearby futures.
- Cocoa butter prices averaged 247 cents a pound in November, down 22 cents from the October average, and 31 cents below the November, 2020 average. Prices in early December were around 239 cents a pound. Cocoa butter prices are likely to average 247-257 cents a pound in December-March compared with 261 cents a year earlier. Butter/bean ratios may average 2.22-2.27 times nearby futures in December-March.

COCOA BEAN PRICE FORECAST

Nearby Futures Prices

	2018	2019	2020	2021	2022
	-----Dollars/Tonne-----				
Jan/Mar	2180	2252	2649	2539	2425-2500*
Apr/Jun	2594	2410	2376	2401	2425-2500*
Jul/Sep	2264	2343	2436	2500	2400-2475*
Oct/Dec	2194	2533	2543	2495-2530*	2400-2475*

COCOA POWDER 10/12 NATURAL PRICE FORECAST

	2018	2019	2020	2021	2022
	-----¢/lb.-----				
Jan/Mar	80.0	90.0	98.4	95.0	133-140*
Apr/Jun	85.3	90.0	95.0	95.0	133-140*
Jul/Sep	89.8	92.7	95.0	131.8	131-138*
Oct/Dec	90.0	99.2	95.0	134-138*	131-138*

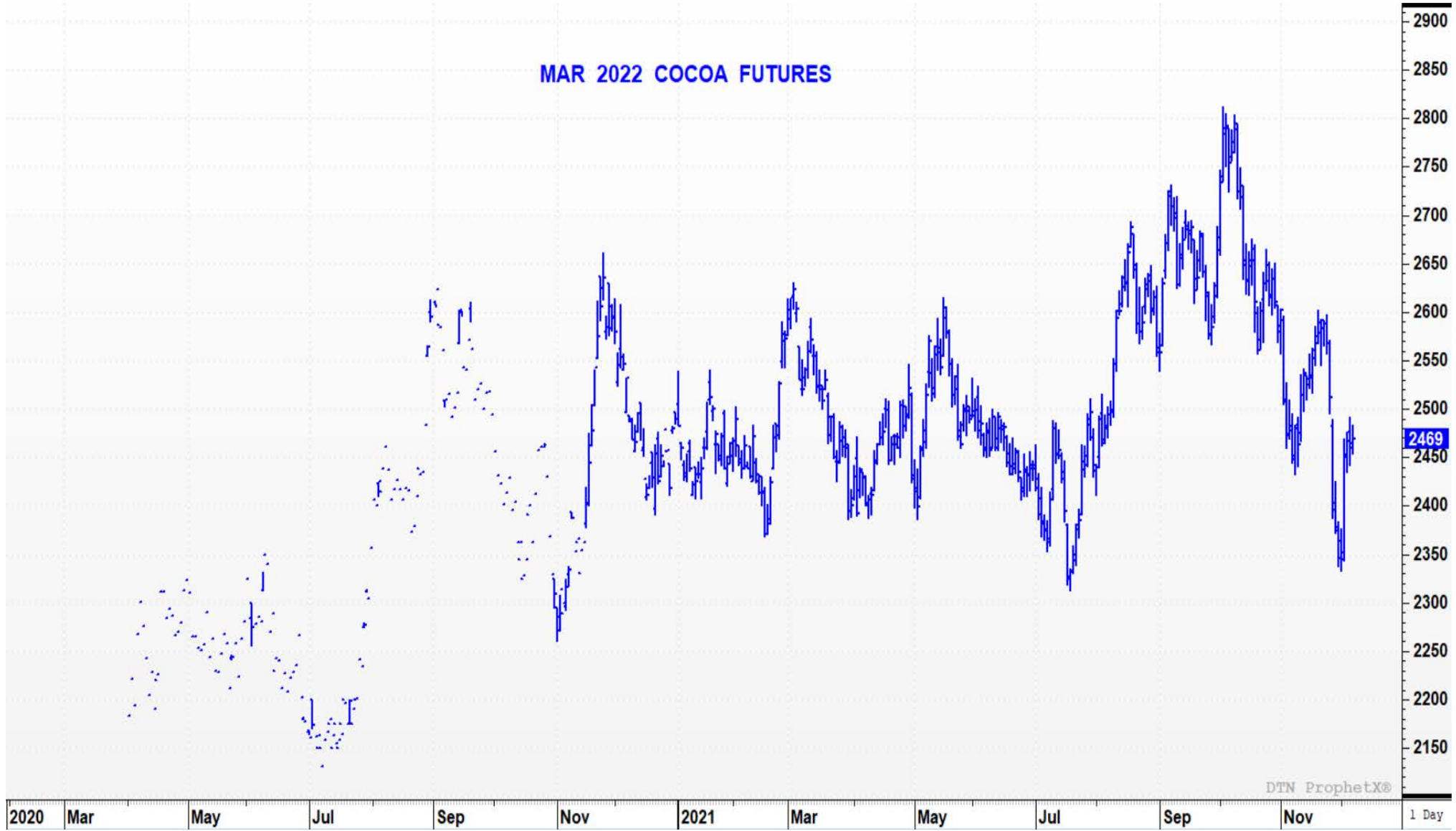
COCOA BUTTER PRICE FORECAST

	2018	2019	2020	2021	2022
	-----¢/lb.-----				
Jan/Mar	295	261	296	259	247-257*
Apr/Jun	336	276	263	233	247-257*
Jul/Sep	276	264	268	246	244-254*
Oct/Dec	260	286	268	254-259*	244-254*

*Foresight estimates

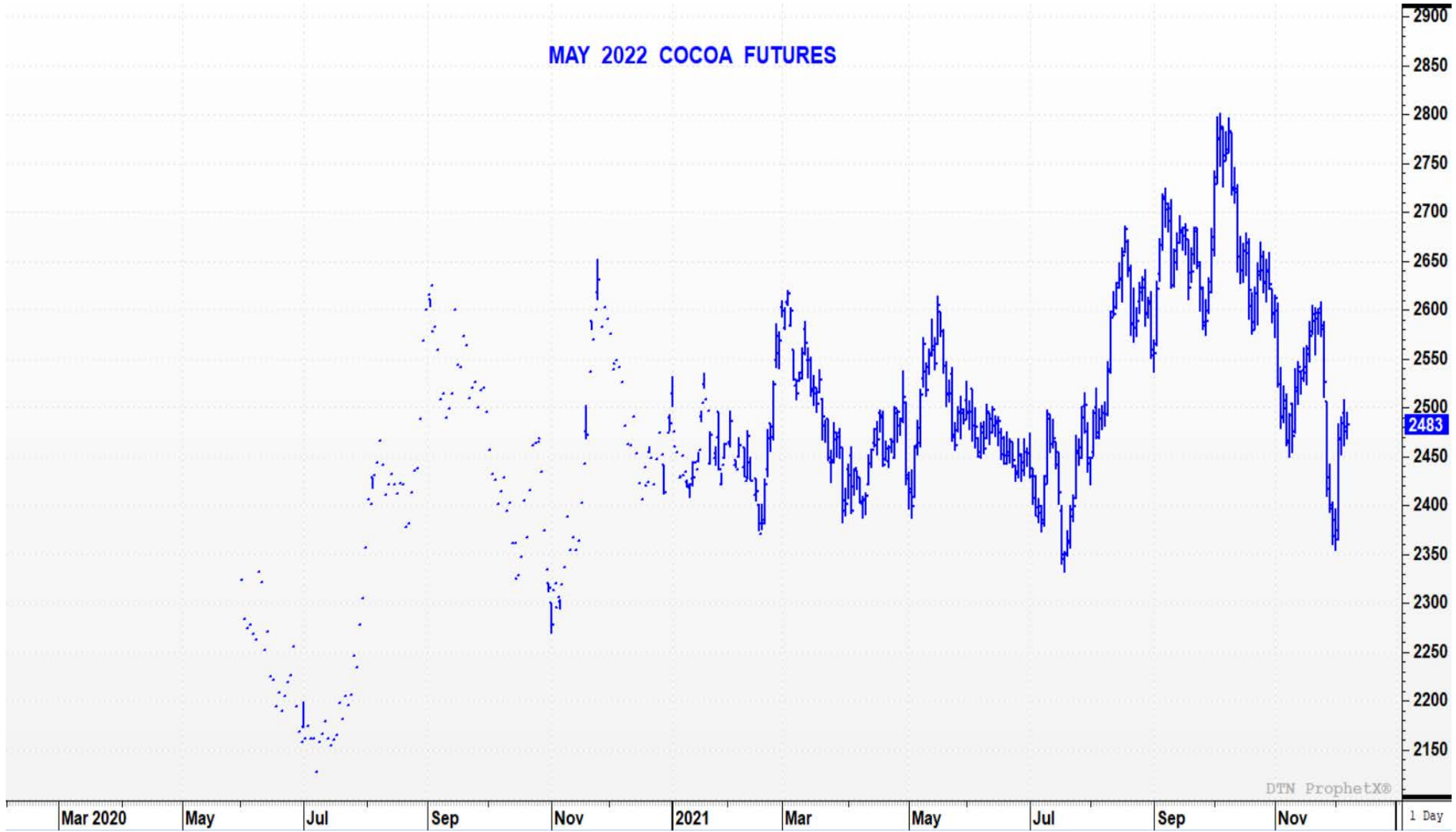
1 - Cocoa T8

MAR 2022 COCOA FUTURES



DTN ProphetX®

MAY 2022 COCOA FUTURES



DTN ProphetX®

1 Day

WORLD COCOA SUPPLY/DEMAND, CROP YEAR

	2016/17	2017/18	2018/19	2019/20	2020/21*	2021/22*
	-----thousand metric tonnes-----					
Beg Stocks, Oct 1	1,427	1,753	1,769	1,731	1,712	1,924
Net Production/1	4,720	4,601	4,746	4,688	5,123	4,856
Supply	6,147	6,354	6,515	6,419	6,835	6,780
Grind	4,394	4,585	4,784	4,707	4,911	5,000
Ending Stocks	1,753	1,769	1,731	1,712	1,924	1,780
Stocks Change	326	16	-38	-19	212	-144
Ratio of Stocks to Grind (%)	40	39	36	36	39	36
Jan/June Ave Price (dollars/tonne)	2,010	2,387	2,331	2,512	2,470	2,425-2,500

1/ Gross production less about 1 percent for shrinkage.

* Foresight Estimates

7 Cocoa T1.1

WORLD COCOA PRODUCTION

Country	2016/17	2017/18	2018/19	2019/20	2020/21*	2021/22*	% Change 2021/20
-----1,000 metric tonnes-----							
Ivory Coast	2,020	1,964	2,154	2,105	2,248	2,150	-4
Brazil	174	204	176	201	200	190	-5
Ghana	969	905	812	771	1,047	850	-19
Nigeria	245	250	270	250	270	270	0
Indonesia	290	240	220	200	180	180	0
Cameroon	246	250	280	280	290	285	-2
Ecuador	300	287	322	342	350	375	+7
Dominican Republic	57	85	75	75	75	75	0
Peru	116	135	141	151	150	155	+3
Others	351	327	344	360	365	375	+3
World Total	4,768	4,647	4,794	4,735	5,175	4,905	-5

*Foresight estimate

1 Cocoa T11

COCOA CROPS IN MAJOR PRODUCING COUNTRIES

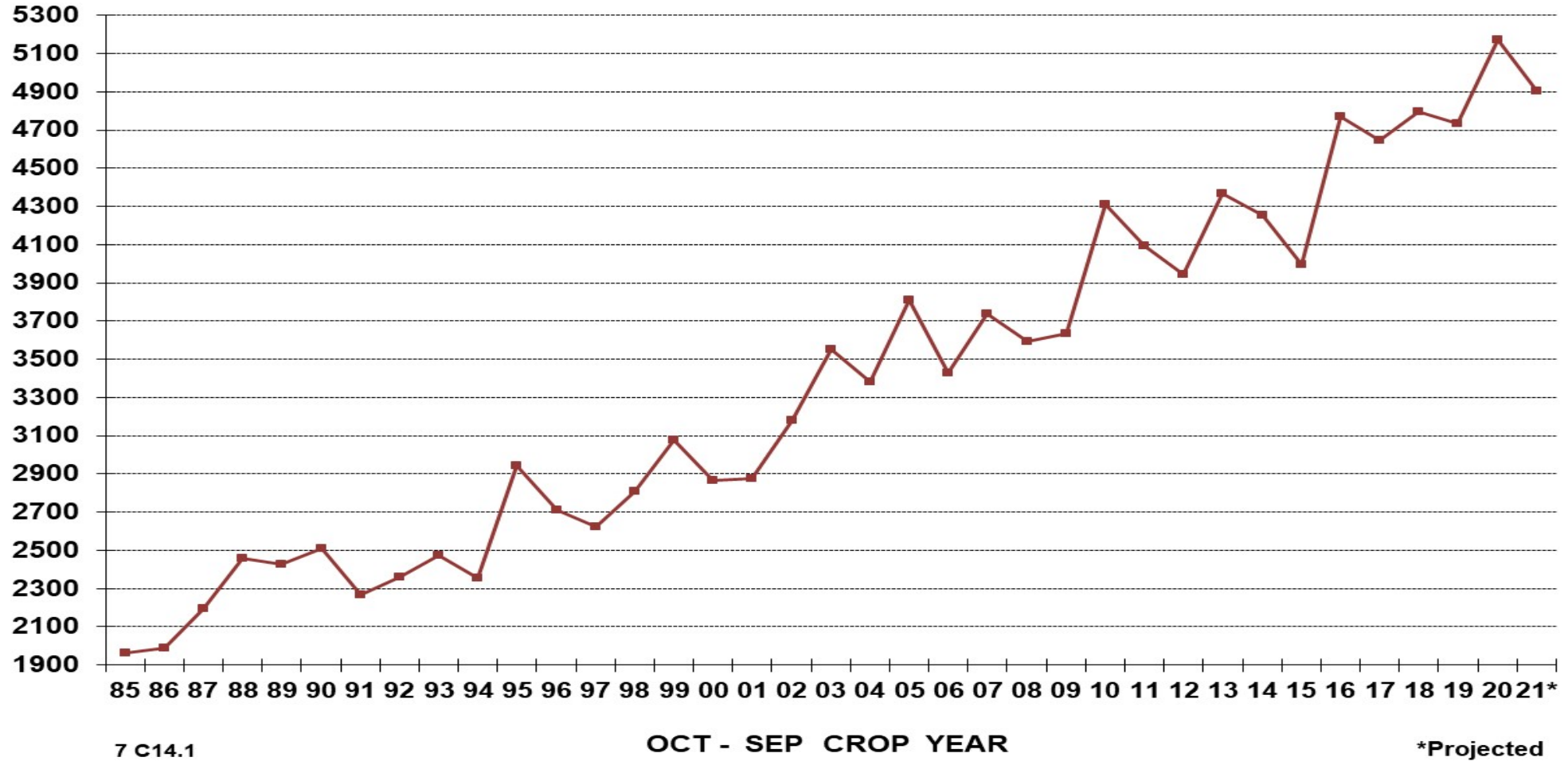
	2016/17	2017/18	2018/19	2019/20	2020/21*	2021/22*
-----1,000 metric tonnes-----						
Ivory Coast:						
Main Crop	1,405	1,375	1,600	1,615	1,761	1,650
Mid-Crop	615	589	554	490	487	500
Total	2,020	1,964	2,154	2,105	2,248	2,150
Ghana:						
Main Crop	882	835	800	740	1,025	810
Mid-Crop	87	70	12	31	42	40
Total	969	905	812	771	1,067	850
Brazil:						
Bahia Main	70	65	60	70	70	60
Bahia Temporao	37	60	50	55	55	55
Other	67	79	66	76	75	75
Total	174	204	176	201	200	190

*Foresight Estimates.

1 Cocoa T3

WORLD COCOA PRODUCTION

Thousand
Metric Tonnes

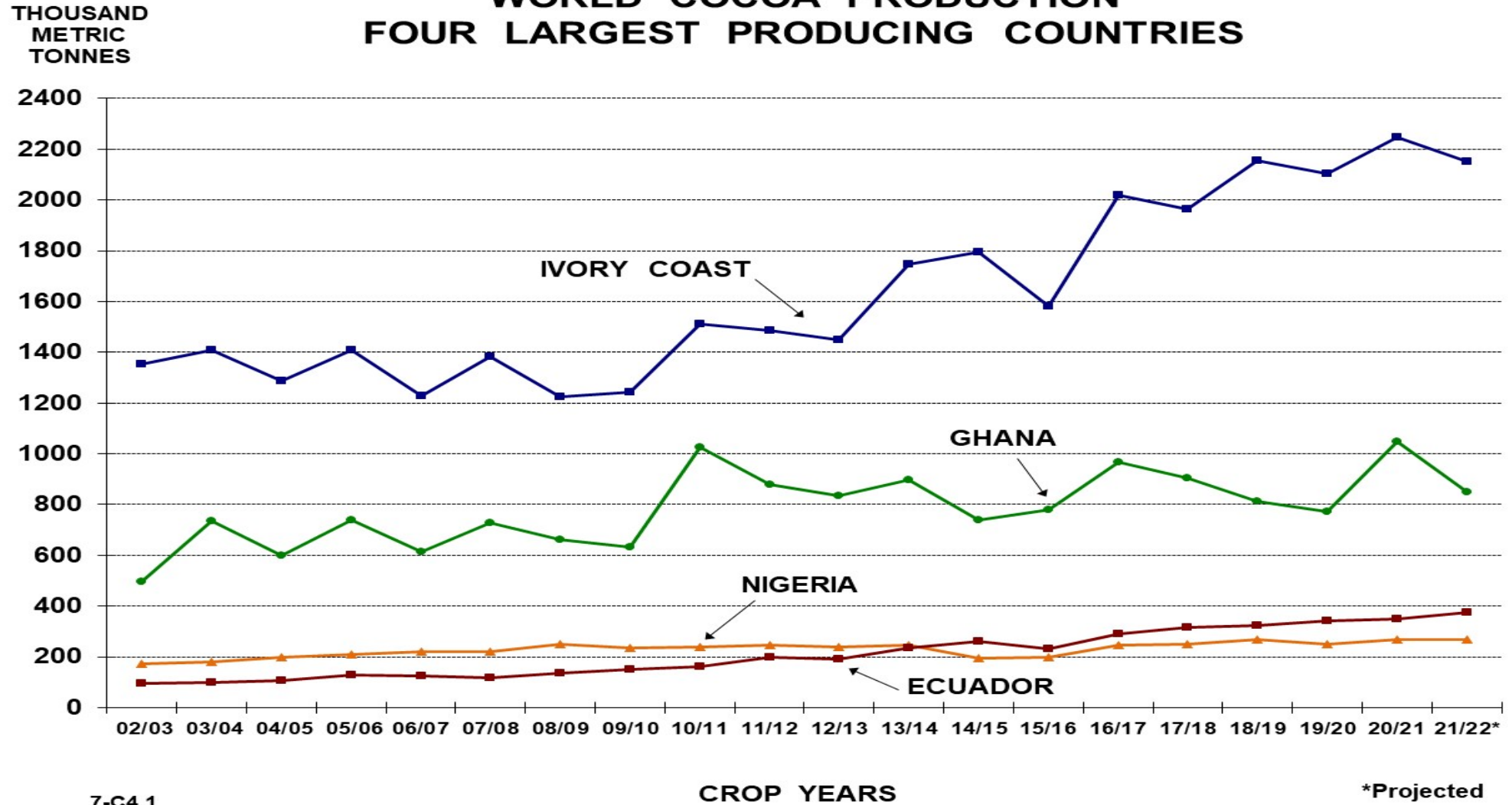


7 C14.1

OCT - SEP CROP YEAR

*Projected

WORLD COCOA PRODUCTION FOUR LARGEST PRODUCING COUNTRIES



7-C4.1

WORLD GRINDINGS OF RAW COCOA

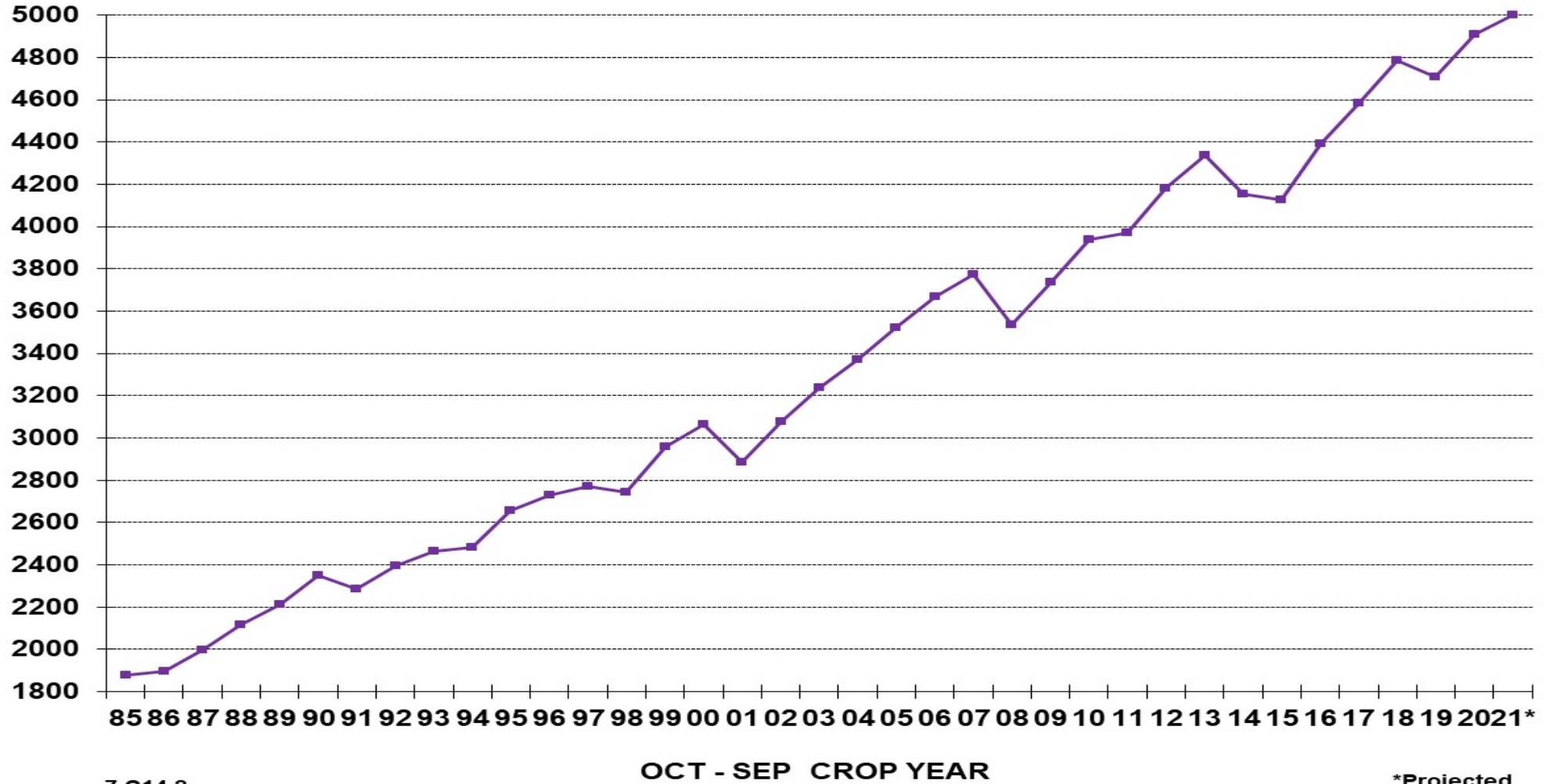
Country	2016/17	2017/18	2018/19	2019/20	2020/21*	2021/22*	% Change 2021/20
----- 1,000 Metric Tonnes -----							
EU	1,461	1,517	1,531	1,489	1,523	1,550	+2
U.S.	390	385	400	380	385	395	+3
Brazil	227	230	235	221	240	245	+2
Russia	52	55	55	70	75	77	+3
Ivory Coast	577	559	605	614	620	630	+2
Indonesia	455	483	487	480	490	500	+2
Malaysia	216	236	327	318	338	350	+4
Ghana	250	310	320	292	322	320	-1
Others	766	810	824	843	918	933	+2
World Total	4,394	4,585	4,784	4,707	4,911	5,000	+2

*Foresight estimate.

1 - Cocoa T9

Thousand
Metric Tonnes

WORLD COCOA GRIND

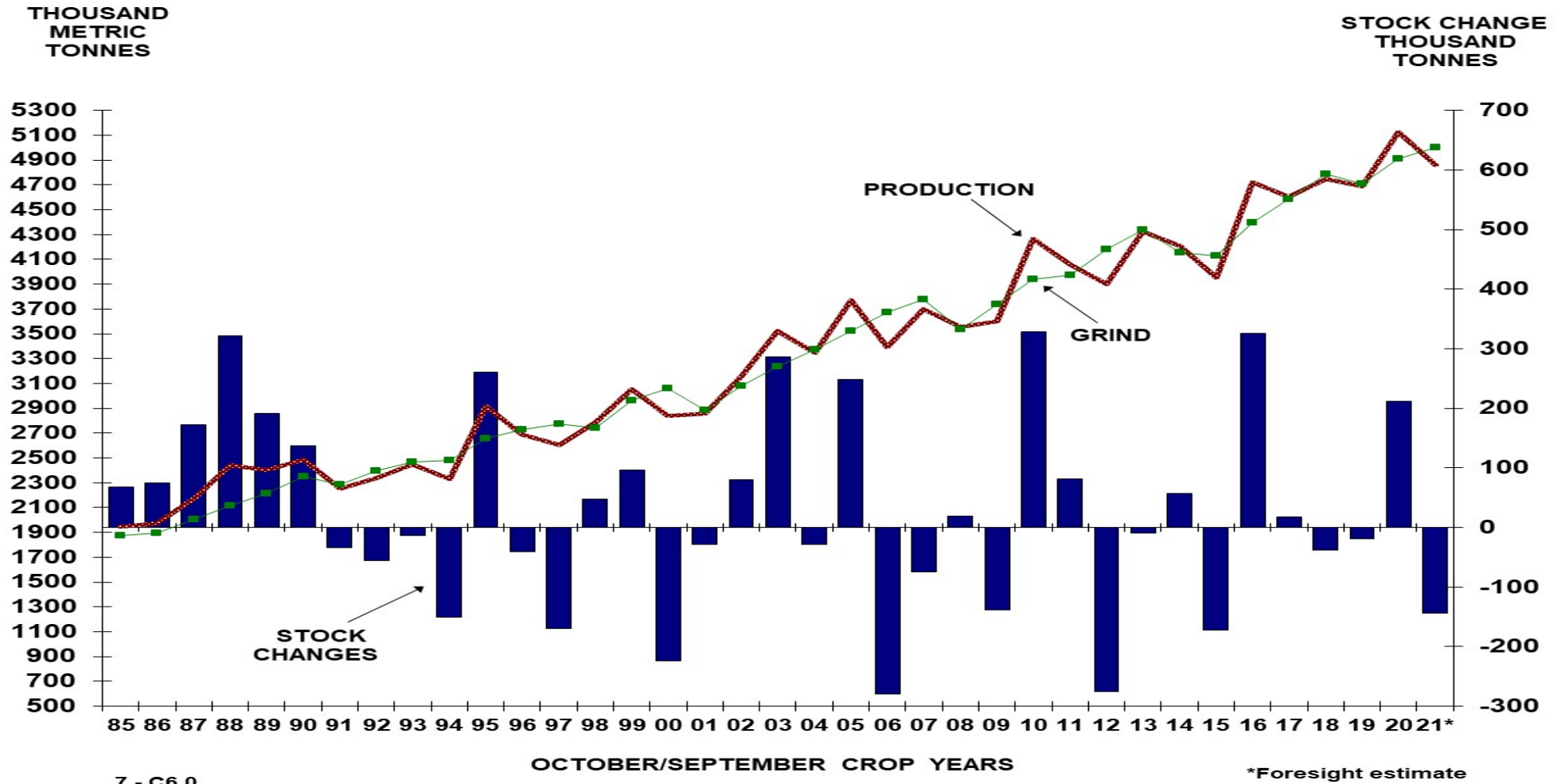


7 C14.2

OCT - SEP CROP YEAR

*Projected

WORLD COCOA PRODUCTION, GRIND, & STOCK CHANGES

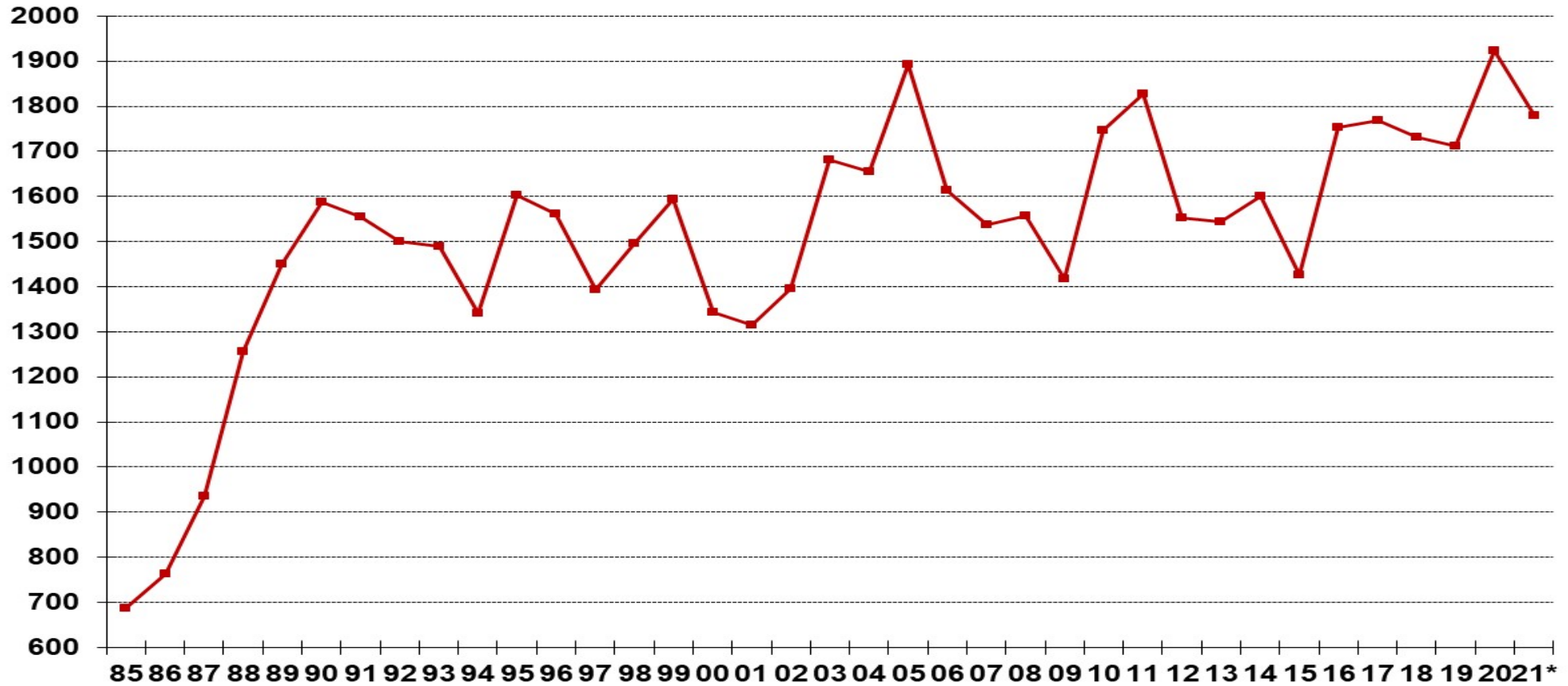


7 - C6.0

*Foresight estimate

WORLD COCOA CARRYOVER STOCKS

Thousand
Metric Tonnes



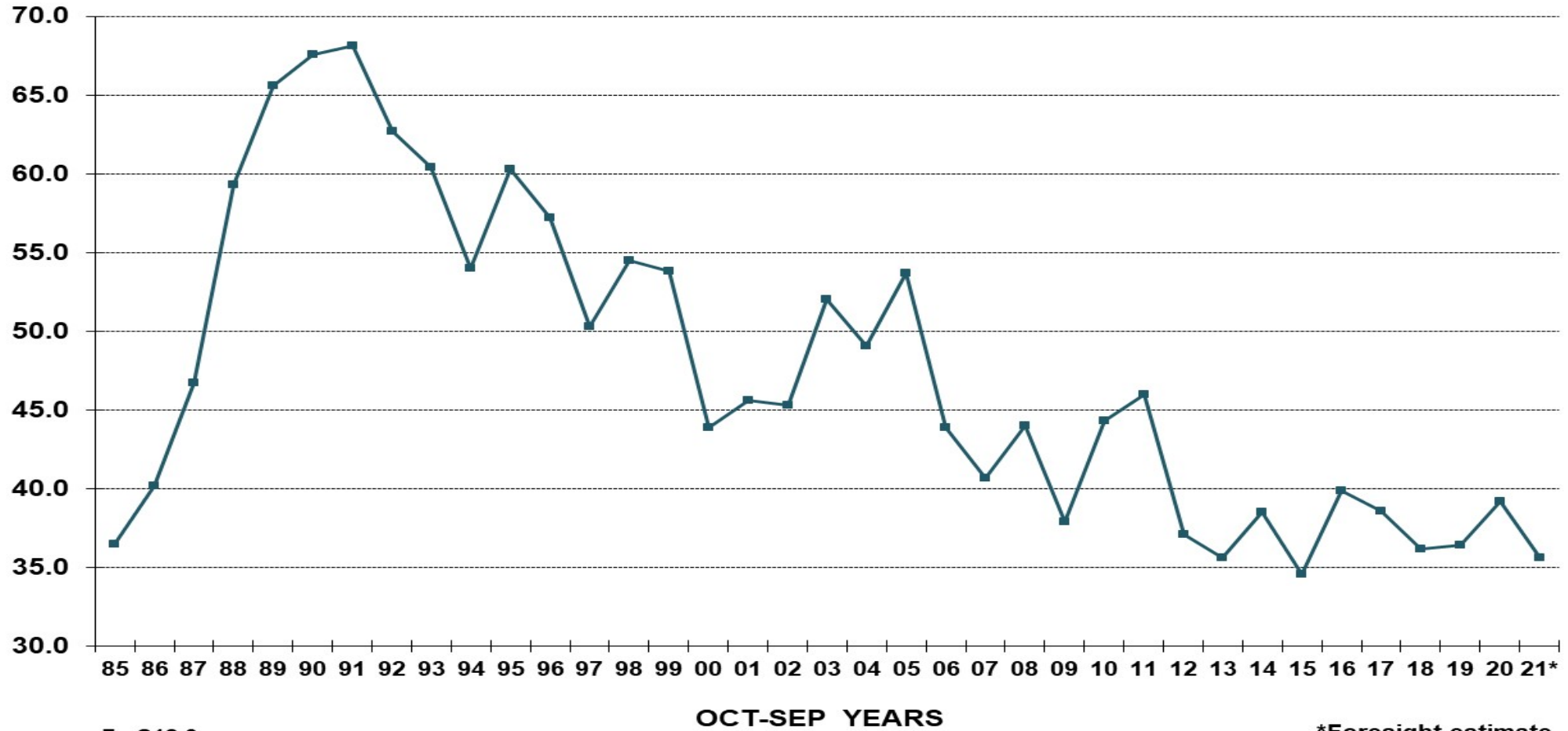
7 C14.3

OCT - SEP CROP YEAR

*Foresight estimate

WORLD COCOA STOCKS-TO-GRIND RATIO

PERCENT
RATIO



7 - C12.6

OCT-SEP YEARS

*Foresight estimate

QUARTERLY COCOA GRIND FOR MAJOR COUNTRIES

	Germany	Europe 1)	USA 2)
	------(Tonnes)-----		
<u>2018</u>			
Jan/Mar	99,642	358,432	118,778
Apr/Jun	94,356	356,109	119,301
Jul/Sep	106,146	363,122	128,494
Oct/Dec	99,181	359,103	117,526
Year	399,325	1,436,766	484,099
<u>2019</u>			
Jan/Mar	101,498	370,359	121,129
Apr/Jun	94,203	344,890	123,731
Jul/Sep	103,332	362,940	119,004
Oct/Dec	98,250	355,201	110,321
Year	397,283	1,433,390	474,185
<u>2020</u>			
Jan/Mar	99,558	373,625	115,591
Apr/Jun	78,885	314,108	110,776
Jul/Sep	93,355	345,730	118,260
Oct/Dec	92,034	344,151	118,043
Year	363,832	1,377,614	462,670
<u>2021</u>			
Jan/Mar	91,482	357,815	117,956
Apr/Jun	93,064	356,854	123,719
Jul/Sep	108,615	375,811	123,399

1) The grinding figures cover around two-thirds of European cocoa grindings.

2) Includes Canada and Mexico.

1 - Cocoa T2.1

GRIND 1

COCOA BEAN PRICES: AVERAGE DAILY NEARBY FUTURES CLOSES*
(DOLLARS/TONNE)

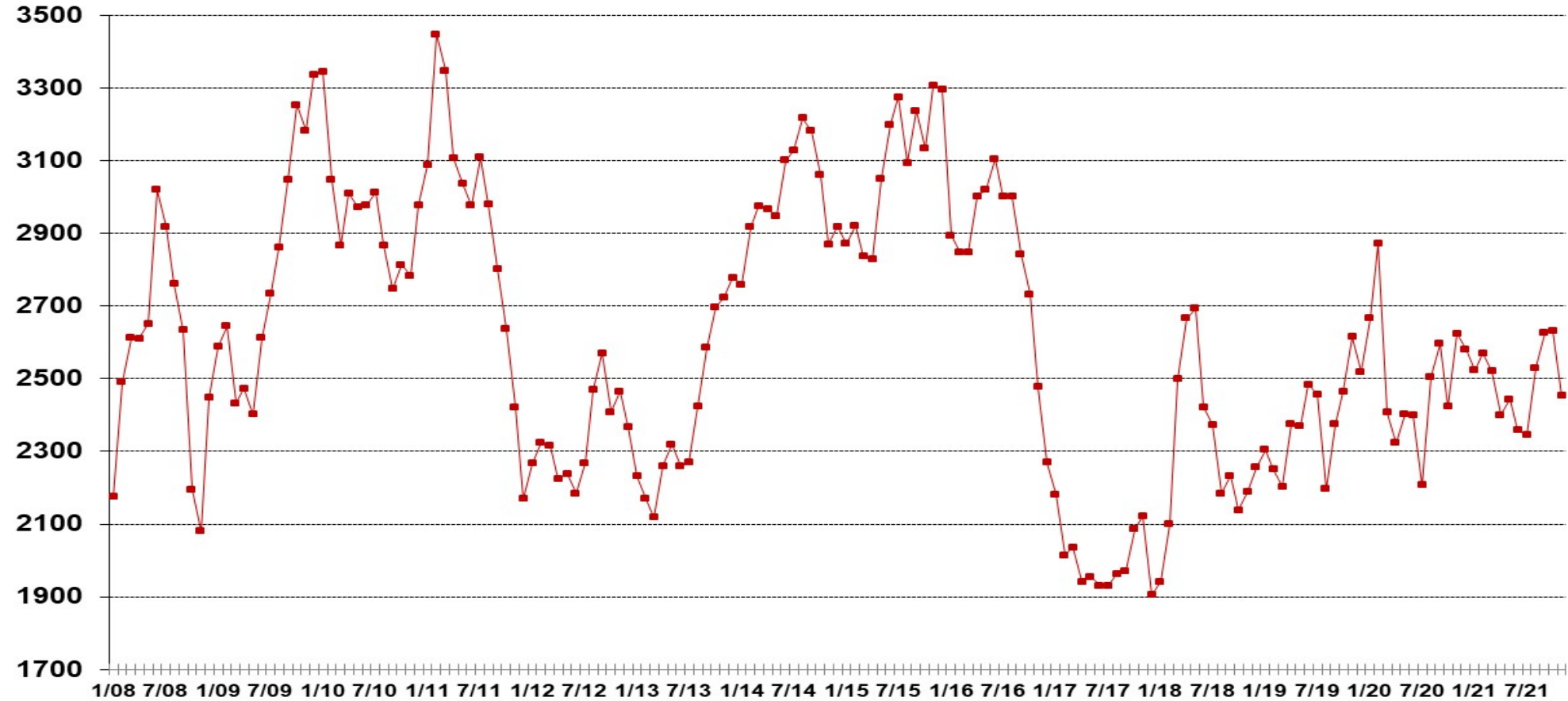
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
1990	959	996	1087	1272	1382	1237	1263	1166	1287	1204	1221	1204	1190
1991	1164	1131	1151	1071	1001	946	959	1034	1204	1219	1206	1287	1114
1992	1199	1100	1052	930	904	838	994	1052	1016	970	979	963	1000
1993	961	899	897	908	906	875	966	963	1146	1146	1166	1228	1005
1994	1138	1093	1193	1116	1265	1312	1426	1389	1345	1296	1279	1279	1261
1995	1349	1376	1362	1354	1321	1299	1250	1303	1296	1294	1343	1294	1320
1996	1263	1274	1239	1343	1387	1382	1369	1356	1365	1373	1334	1376	1338
1997	1334	1252	1413	1433	1444	1550	1554	1543	1671	1640	1585	1651	1506
1998	1581	1534	1624	1644	1703	1586	1585	1541	1561	1528	1472	1423	1565
1999	1352	1295	1214	1054	958	1063	1009	936	971	929	832	848	1038
2000	840	764	847	797	819	838	849	764	806	803	717	740	799
2001	918	1090	1053	1006	1027	930	933	981	971	1043	1195	1289	1036
2002	1344	1440	1519	1535	1534	1542	1766	1858	2072	2129	1800	1999	1712
2003	2189	2243	1982	1980	1730	1551	1522	1583	1598	1459	1499	1595	1744
2004	1598	1530	1468	1389	1371	1350	1515	1662	1488	1443	1630	1618	1505
2005	1513	1592	1720	1516	1459	1478	1423	1388	1432	1382	1370	1463	1478
2006	1518	1479	1479	1469	1516	1523	1595	1489	1483	1448	1478	1629	1509
2007	1611	1715	1833	1875	1906	1919	2056	1836	1922	1878	1922	2078	1879
2008	2175	2491	2613	2611	2651	3020	2918	2761	2634	2195	2081	2448	2550
2009	2588	2645	2433	2473	2402	2613	2735	2861	3047	3254	3184	3336	2798
2010	3345	3047	2867	3011	2973	2977	3014	2867	2747	2814	2784	2979	2952
2011	3089	3448	3348	3108	3038	2977	3109	2980	2803	2637	2422	2170	2927
2012	2267	2325	2315	2223	2239	2184	2268	2470	2570	2409	2465	2368	2342
2013	2232	2169	2118	2260	2319	2259	2269	2425	2585	2698	2723	2778	2403
2014	2759	2918	2975	2966	2948	3101	3128	3217	3182	3061	2871	2919	3004
2015	2872	2922	2836	2829	3051	3200	3276	3095	3238	3134	3306	3296	3088
2016	2894	2847	3012	3001	3022	3105	3001	3001	2843	2732	2478	2269	2850
2017	2182	2015	2036	1941	1955	1931	1930	1963	1971	2086	2122	1905	2003
2018	1941	2101	2499	2667	2693	2422	2373	2185	2233	2139	2188	2256	2308
2019	2304	2250	2203	2376	2370	2484	2457	2197	2375	2466	2615	2519	2385
2020	2667	2872	2407	2323	2403	2401	2207	2506	2596	2423	2625	2581	2501
2021	2524	2571	2521	2400	2444	2358	2345	2530	2626	2633	2453		

* Dec-Feb based on March futures; Mar-Apr based on May futures; May-Jun based on July futures; Jul-Aug based on September futures; Oct-Nov based on December futures.

26 - T5.0

COCOA BEAN PRICES (NEARBY FUTURES)

DOLLARS/TONNE



7-Cocoa T12-C1

MONTHLY
1/08-11/21

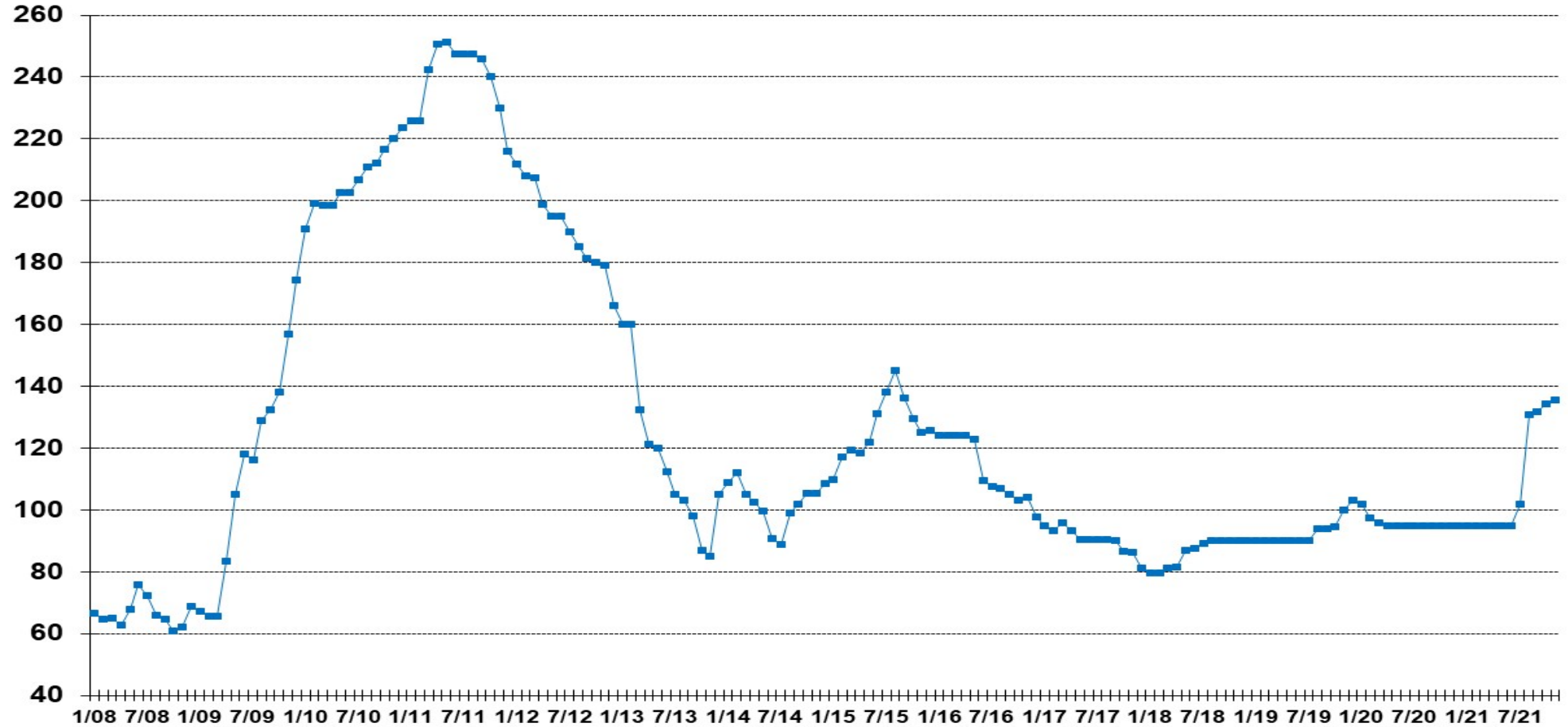
10/12% NATURAL COCOA POWDER PRICES, NYC
(CENTS/LB)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
1989	62.67	65.57	58.72	51.01	48.20	48.06	51.83	50.19	46.47	44.39	43.21	41.57	50.99
1990	43.23	42.25	41.71	46.07	49.29	45.52	44.68	40.81	41.99	39.20	37.13	34.52	42.20
1991	33.46	31.54	30.20	30.01	29.37	29.07	29.53	30.87	33.20	33.97	34.17	35.37	31.73
1992	34.68	32.30	31.45	29.25	29.14	29.70	33.15	35.35	35.31	36.08	38.99	39.16	33.70
1993	40.36	38.84	38.82	38.91	38.25	37.83	40.97	41.70	45.00	45.16	45.88	47.59	41.61
1994	45.13	43.46	42.85	39.28	42.91	44.14	47.10	46.72	44.38	41.73	40.63	38.73	43.09
1995	40.67	41.52	42.17	41.15	41.03	41.20	38.89	38.85	38.31	38.90	38.87	37.75	39.94
1996	38.40	38.54	37.74	39.22	38.98	38.02	37.75	39.04	39.03	38.99	38.15	38.41	38.52
1997	36.05	36.13	39.30	40.11	40.14	42.93	42.80	43.10	45.12	44.81	42.43	43.22	41.34
1998	42.18	42.82	44.82	46.85	47.37	44.72	45.90	46.94	49.48	48.20	48.14	47.06	46.21
1999	46.48	45.22	43.65	43.39	40.75	43.47	42.28	41.33	43.96	44.73	43.30	44.84	43.62
2000	46.43	44.86	48.05	48.33	48.59	50.52	51.24	50.31	51.90	52.14	50.66	50.10	49.43
2001	58.95	63.06	63.42	62.75	64.26	62.64	64.99	67.47	68.01	74.00	84.02	86.83	68.37
2002	88.00	91.15	92.85	94.88	102.89	109.55	127.62	137.06	147.3	145.16	123.74	135.91	116.34
2003	145.36	135.16	129.31	127.99	115.65	104.64	103.67	105.55	104.82	96.29	95.42	100.88	113.73
2004	100.08	96.90	88.19	82.31	79.08	77.96	83.87	80.45	70.78	67.49	70.40	68.32	80.49
2005	66.06	69.40	72.92	62.55	60.31	62.29	57.01	56.93	54.88	53.68	53.37	55.92	60.44
2006	56.14	54.04	48.48	44.09	47.06	50.60	50.91	53.30	52.18	51.74	50.56	53.46	51.05
2007	53.04	55.58	57.98	57.66	56.82	55.04	57.37	54.15	55.95	54.41	55.56	57.96	55.96
2008	66.62	64.47	65.03	62.74	67.67	75.63	72.18	65.94	64.83	60.95	62.20	68.68	66.41
2009	67.26	65.72	65.51	83.47	105.14	118.10	116.08	129.00	132.50	138.00	156.90	174.50	112.68
2010	191.25	199.25	198.38	198.50	202.50	202.50	206.90	211.00	212.25	216.70	220.00	223.50	206.89
2011	226.00	226.00	242.50	250.50	251.25	247.50	247.50	247.50	246.00	240.00	230.00	216.00	239.23
2012	211.88	207.50	207.50	198.75	195.00	195.00	190.00	185.00	181.25	180.00	179.00	166.25	191.43
2013	160.00	160.00	132.50	121.25	120.00	112.50	105.00	103.00	98.12	86.88	85.00	105.00	115.77
2014	108.90	112.00	105.00	102.50	99.50	90.62	88.75	99.00	101.88	105.50	105.50	108.50	102.30
2015	109.80	117.25	119.25	118.25	122.00	131.25	138.00	145.00	136.25	129.60	125.00	125.80	126.45
2016	124.25	124.00	124.00	124.00	122.75	109.38	107.50	106.88	105.00	103.12	104.00	97.60	112.71
2017	95.00	93.25	95.90	93.25	90.50	90.50	90.50	90.50	90.00	86.50	86.25	81.30	90.29
2018	79.50	79.50	81.10	81.50	87.00	87.40	89.25	90.00	90.00	90.00	90.00	90.00	86.27
2019	90.00	90.00	90.00	90.00	90.00	90.00	90.00	94.00	94.00	94.60	99.80	103.25	92.97
2020	102.00	97.50	95.75	95.00	95.00	95.00	95.00	95.00	95.00	95.00	95.00	95.00	95.85
2021	95.00	95.00	95.00	95.00	95.00	95.00	102.00	130.75	131.75	134.30	135.50		

1) Beginning with August 2009, the source of the cocoa powder prices is the Milling and Baking News.

10/12% NATURAL COCOA POWDER PRICES

CENTS/LB



7 - C12.2

MONTHLY
1/08-11/21

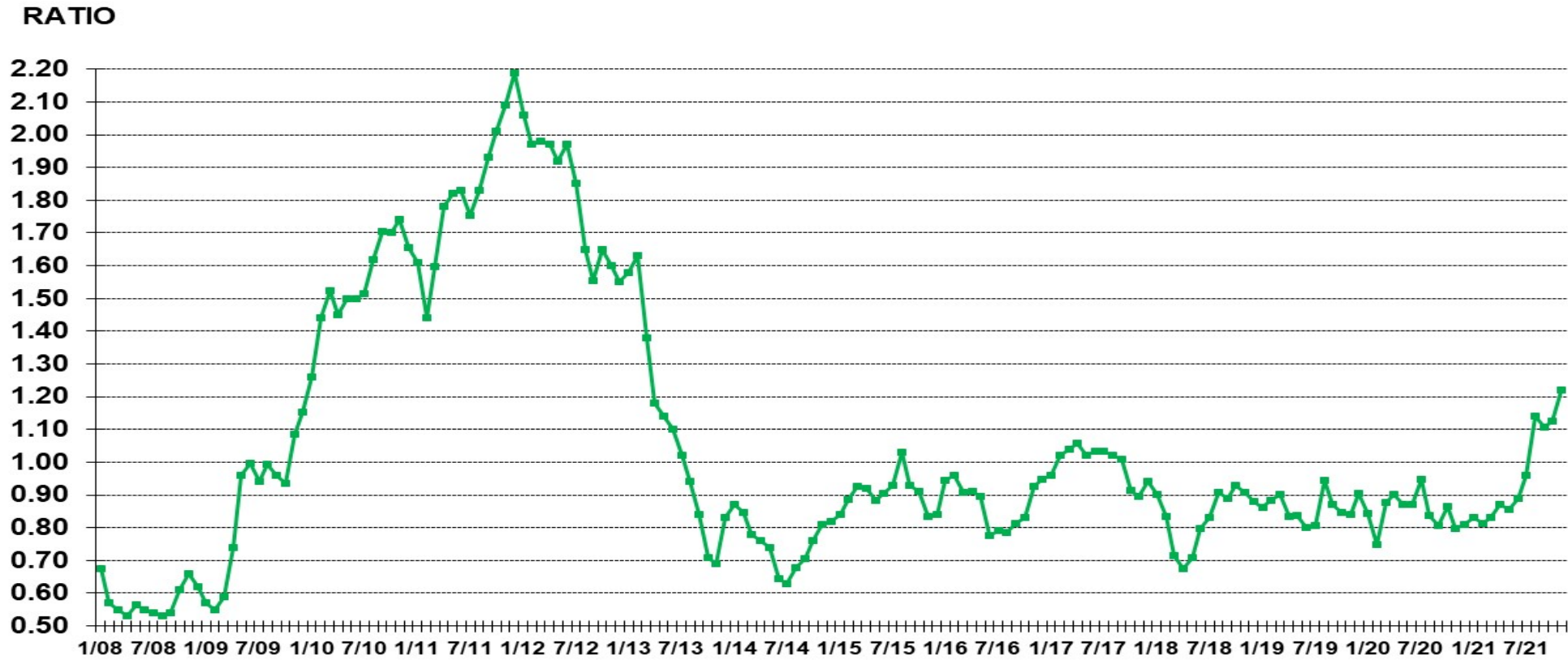
RATIO OF 10/12% NATURAL COCOA POWDER PRICES TO COCOA BEAN PRICES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
1990	0.994	0.934	0.846	0.798	0.786	0.812	0.780	0.771	0.719	0.717	0.670	0.632	0.788
1991	0.633	0.615	0.578	0.617	0.647	0.677	0.679	0.658	0.608	0.614	0.625	0.606	0.630
1992	0.637	0.648	0.660	0.692	0.710	0.782	0.735	0.742	0.766	0.820	0.878	0.896	0.747
1993	0.925	0.951	0.954	0.944	0.932	0.952	0.934	0.955	0.866	0.868	0.867	0.855	0.917
1994	0.874	0.876	0.792	0.776	0.747	0.741	0.728	0.741	0.727	0.709	0.700	0.667	0.756
1995	0.665	0.665	0.683	0.670	0.685	0.699	0.686	0.657	0.652	0.662	0.638	0.643	0.667
1996	0.670	0.667	0.672	0.644	0.620	0.607	0.608	0.635	0.631	0.626	0.630	0.615	0.635
1997	0.596	0.636	0.613	0.618	0.613	0.611	0.607	0.616	0.595	0.602	0.591	0.577	0.606
1998	0.589	0.615	0.609	0.628	0.613	0.622	0.638	0.672	0.699	0.696	0.721	0.729	0.653
1999	0.758	0.770	0.793	0.908	0.938	0.902	0.924	0.974	0.998	1.062	1.147	1.166	0.945
2000	1.219	1.295	1.250	1.338	1.308	1.329	1.331	1.451	1.420	1.431	1.559	1.493	1.369
2001	1.416	1.275	1.327	1.375	1.379	1.484	1.535	1.516	1.545	1.565	1.551	1.485	1.454
2002	1.444	1.396	1.348	1.363	1.478	1.566	1.593	1.626	1.567	1.503	1.515	1.499	1.492
2003	1.464	1.328	1.439	1.425	1.473	1.488	1.502	1.470	1.446	1.455	1.404	1.394	1.441
2004	1.381	1.397	1.325	1.307	1.272	1.273	1.221	1.067	1.049	1.031	0.952	0.931	1.184
2005	0.963	0.961	0.935	0.910	0.911	0.929	0.884	0.905	0.845	0.856	0.859	0.842	0.900
2006	0.815	0.805	0.722	0.662	0.685	0.733	0.704	0.789	0.776	0.788	0.754	0.724	0.746
2007	0.726	0.714	0.697	0.678	0.657	0.632	0.615	0.650	0.642	0.639	0.637	0.615	0.658
2008	0.675	0.570	0.549	0.530	0.563	0.552	0.545	0.527	0.543	0.612	0.659	0.619	0.579
2009	0.573	0.548	0.594	0.744	0.965	0.996	0.936	0.994	0.959	0.935	1.086	1.153	0.874
2010	1.260	1.442	1.525	1.453	1.502	1.499	1.513	1.623	1.703	1.698	1.742	1.654	1.551
2011	1.613	1.445	1.597	1.777	1.823	1.833	1.755	1.831	1.935	2.006	2.094	2.194	1.825
2012	2.060	1.968	1.976	1.971	1.920	1.968	1.847	1.651	1.555	1.647	1.601	1.548	1.809
2013	1.580	1.626	1.379	1.183	1.141	1.098	1.020	0.936	0.837	0.710	0.688	0.833	1.086
2014	0.870	0.846	0.778	0.762	0.744	0.644	0.626	0.679	0.706	0.760	0.810	0.819	0.754
2015	0.843	0.885	0.927	0.922	0.882	0.904	0.929	1.033	0.928	0.912	0.834	0.841	0.903
2016	0.946	0.960	0.908	0.911	0.895	0.776	0.790	0.785	0.814	0.832	0.925	0.948	0.874
2017	0.960	1.020	1.038	1.059	1.020	1.033	1.034	1.016	1.007	0.914	0.896	0.941	0.995
2018	0.903	0.834	0.715	0.674	0.712	0.796	0.829	0.908	0.888	0.928	0.907	0.879	0.831
2019	0.861	0.882	0.901	0.835	0.837	0.799	0.807	0.943	0.872	0.846	0.841	0.904	0.861
2020	0.843	0.748	0.877	0.901	0.871	0.872	0.949	0.836	0.807	0.864	0.798	0.811	0.848
2021	0.830	0.814	0.831	0.872	0.857	0.888	0.959	1.140	1.106	1.124	1.218		

26 - T4.3

PRICE 3

COCOA POWDER TO BEAN RATIO



7-C12.3

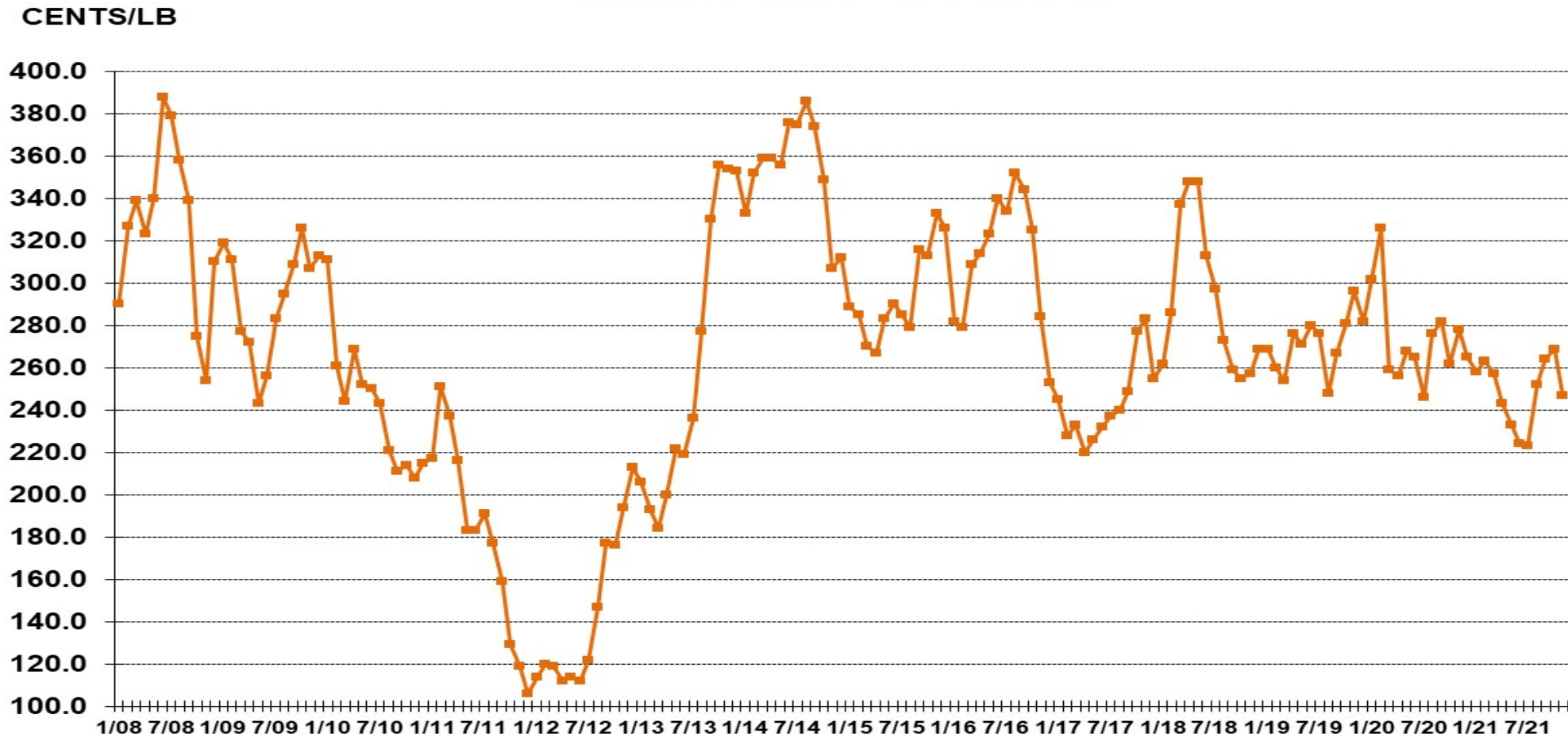
MONTHLY
1/08-11/21

**COCOA BUTTER PRICES
(CENTS/LB)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
1990	122.3	125.8	138.3	161.8	173.1	154.4	156.9	152.6	165.3	155.0	167.3	159.5	152.7
1991	157.0	152.6	153.0	144.0	134.0	128.0	123.0	133.0	150.0	147.0	144.0	148.0	142.8
1992	138.0	128.0	124.0	114.0	108.0	105.0	122.0	129.0	125.0	119.0	122.0	117.0	120.9
1993	117.0	110.0	109.0	113.0	110.0	109.0	119.0	122.0	139.0	143.0	148.0	154.0	124.4
1994	142.0	138.0	151.0	142.0	158.0	163.0	174.0	173.0	166.0	162.0	164.0	161.0	157.8
1995	171.0	178.0	178.0	176.0	172.0	171.0	165.0	171.0	167.0	170.0	177.0	167.0	171.9
1996	164.0	165.0	160.0	170.0	182.0	179.0	175.0	176.0	175.0	177.0	174.0	176.0	172.8
1997	172.0	163.0	180.0	182.0	180.0	195.0	193.0	191.0	205.0	200.0	193.0	198.0	187.7
1998	189.0	184.0	193.0	192.0	196.0	187.0	182.0	180.0	179.0	173.0	173.0	165.0	182.8
1999	158.0	153.0	140.0	129.0	117.0	131.0	124.0	117.0	118.0	113.0	103.0	104.0	125.6
2000	103.0	96.0	103.0	98.0	97.0	97.0	96.0	91.0	94.0	93.0	83.0	83.0	94.5
2001	101.0	116.0	105.0	101.0	104.0	91.0	90.0	93.0	89.0	95.0	104.0	110.0	99.9
2002	111.0	114.0	118.0	119.0	120.0	118.0	121.0	126.0	152.0	169.0	150.0	174.0	132.7
2003	187.0	183.0	164.0	164.0	144.0	131.0	135.0	142.0	161.0	149.0	159.0	167.0	157.2
2004	166.0	155.0	156.0	163.0	165.0	161.0	183.0	210.0	191.0	197.0	232.0	226.0	183.8
2005	206.0	215.0	230.0	201.0	189.0	195.0	187.0	196.0	195.0	189.0	185.0	196.0	198.7
2006	199.0	189.0	184.0	183.0	188.0	182.0	191.0	184.0	175.0	173.0	178.0	196.0	185.2
2007	195.0	209.0	231.0	239.0	249.0	253.0	272.0	245.0	252.0	249.0	256.0	277.0	243.9
2008	290.0	327.0	339.0	323.0	340.0	388.0	379.0	358.0	339.0	275.0	254.0	310.0	326.8
2009	319.0	311.0	277.0	272.0	243.0	256.0	283.0	295.0	309.0	326.0	307.0	313.0	292.6
2010	311.0	261.0	244.0	269.0	252.0	250.0	243.0	221.0	211.0	214.0	208.0	215.0	241.6
2011	217.0	251.0	237.0	216.0	183.0	183.0	191.0	177.0	159.0	129.0	119.0	106.0	180.7
2012	114.0	120.0	119.0	112.0	114.0	112.0	122.0	147.0	177.0	176.0	194.0	213.0	143.3
2013	206.0	193.0	184.0	200.0	222.0	219.0	236.0	277.0	330.0	356.0	354.0	353.0	260.8
2014	333.0	352.0	359.0	359.0	356.0	376.0	375.0	386.0	374.0	349.0	307.0	312.0	353.2
2015	289.0	285.0	270.0	267.0	283.0	290.0	285.0	279.0	316.0	313.0	333.0	326.0	294.7
2016	282.0	279.0	309.0	314.0	323.0	340.0	334.0	352.0	344.0	325.0	284.0	253.0	311.6
2017	245.0	228.0	233.0	220.0	226.0	232.0	237.0	240.0	249.0	277.0	283.0	255.0	243.8
2018	262.0	286.0	337.0	348.0	348.0	313.0	297.0	273.0	259.0	255.0	257.0	269.0	292.0
2019	269.0	260.0	254.0	276.0	271.0	280.0	276.0	248.0	267.0	281.0	296.0	282.0	272.0
2020	302.0	326.0	259.0	256.0	268.0	265.0	246.0	276.0	282.0	262.0	278.0	265.0	273.8
2021	258.0	263.0	257.0	241.0	233.0	224.0	223.0	252.0	264.0	269.0	247.0		

26 - T4.4

COCOA BUTTER PRICES



7 C12.4

MONTHLY
1/08-11/21

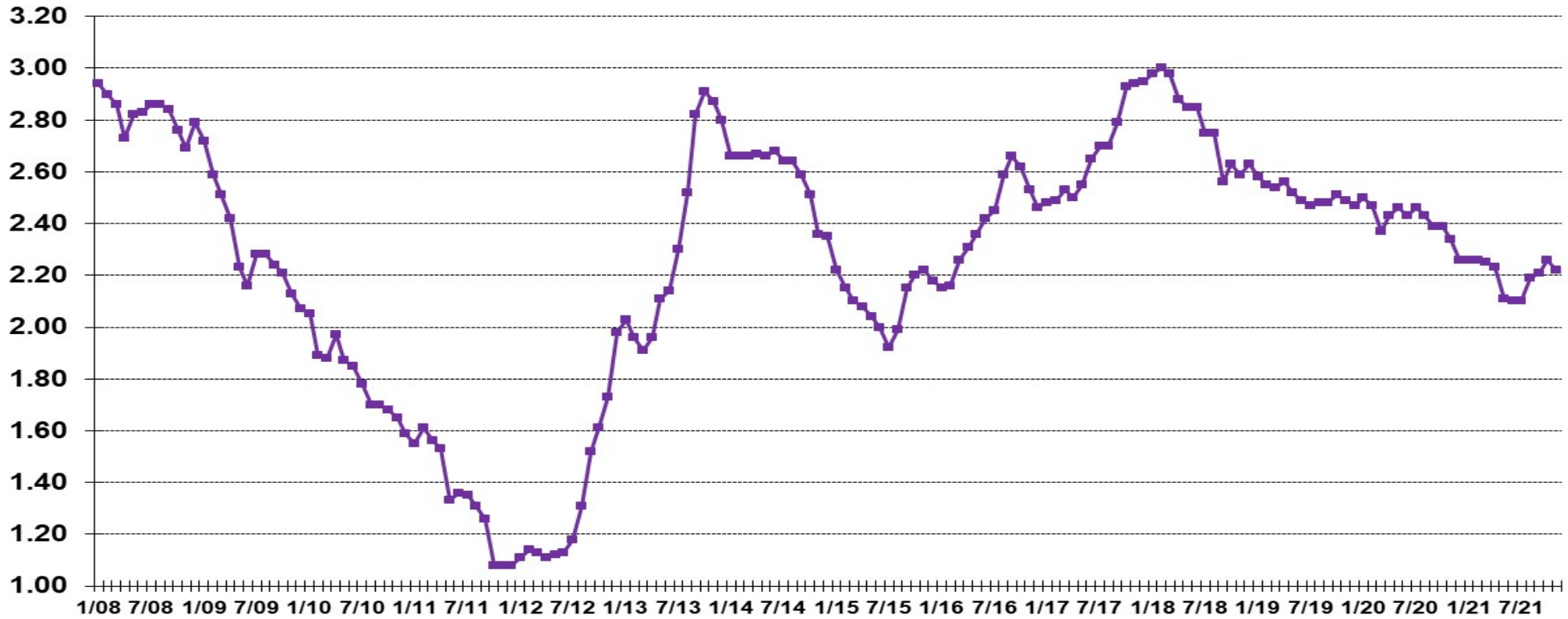
RATIO OF COCOA BUTTER PRICES TO COCOA BEAN PRICES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
1990	2.81	2.78	2.80	2.80	2.76	2.75	2.74	2.88	2.83	2.84	3.02	2.92	2.83
1991	2.97	2.98	2.92	2.96	2.94	2.97	2.84	2.83	2.75	2.66	2.64	2.54	2.83
1992	2.53	2.57	2.61	2.69	2.64	2.77	2.69	2.71	2.70	2.71	2.75	2.67	2.67
1993	2.67	2.70	2.68	2.74	2.68	2.75	2.71	2.79	2.67	2.75	2.80	2.77	2.73
1994	2.75	2.79	2.79	2.80	2.76	2.74	2.68	2.74	2.72	2.75	2.82	2.78	2.76
1995	2.79	2.85	2.87	2.87	2.86	2.90	2.91	2.89	2.84	2.89	2.90	2.85	2.87
1996	2.86	2.86	2.84	2.79	2.90	2.85	2.81	2.86	2.83	2.85	2.87	2.83	2.85
1997	2.84	2.88	2.81	2.81	2.75	2.78	2.73	2.73	2.70	2.69	2.68	2.64	2.75
1998	2.64	2.65	2.62	2.58	2.54	2.60	2.53	2.57	2.53	2.50	2.59	2.56	2.58
1999	2.57	2.60	2.54	2.71	2.69	2.73	2.70	2.76	2.68	2.69	2.74	2.70	2.68
2000	2.71	2.76	2.68	2.70	2.60	2.56	2.48	2.61	2.56	2.55	2.56	2.46	2.60
2001	2.43	2.34	2.20	2.21	2.23	2.16	2.12	2.10	2.03	2.02	1.93	1.89	2.14
2002	1.83	1.75	1.71	1.70	1.72	1.69	1.52	1.50	1.61	1.75	1.83	1.91	1.71
2003	1.88	1.79	1.83	1.82	1.84	1.86	1.95	1.98	2.22	2.25	2.33	2.30	2.00
2004	2.30	2.23	2.34	2.59	2.65	2.64	2.67	2.78	2.82	3.01	3.14	3.07	2.69
2005	3.00	2.97	2.95	2.93	2.86	2.90	2.90	3.12	3.00	3.01	2.98	2.95	2.96
2006	2.89	2.81	2.74	2.75	2.73	2.64	2.64	2.73	2.60	2.63	2.66	2.65	2.71
2007	2.67	2.68	2.78	2.80	2.88	2.90	2.92	2.94	2.89	2.92	2.94	2.94	2.86
2008	2.94	2.90	2.86	2.73	2.82	2.83	2.86	2.86	2.84	2.76	2.69	2.79	2.82
2009	2.72	2.59	2.51	2.42	2.23	2.16	2.28	2.28	2.24	2.21	2.13	2.07	2.32
2010	2.05	1.89	1.88	1.97	1.87	1.85	1.78	1.70	1.70	1.68	1.65	1.59	1.80
2011	1.55	1.61	1.56	1.53	1.33	1.36	1.35	1.31	1.25	1.08	1.08	1.08	1.34
2012	1.11	1.14	1.13	1.11	1.12	1.13	1.18	1.31	1.52	1.61	1.73	1.98	1.34
2013	2.03	1.96	1.91	1.96	2.11	2.14	2.30	2.52	2.82	2.91	2.87	2.80	2.36
2014	2.66	2.66	2.66	2.67	2.66	2.68	2.64	2.64	2.59	2.51	2.36	2.35	2.59
2015	2.22	2.15	2.10	2.08	2.04	2.00	1.92	1.99	2.15	2.20	2.22	2.18	2.10
2016	2.15	2.16	2.26	2.31	2.36	2.42	2.45	2.59	2.66	2.62	2.53	2.46	2.41
2017	2.48	2.49	2.53	2.50	2.55	2.65	2.70	2.70	2.79	2.93	2.94	2.95	2.68
2018	2.98	3.00	2.98	2.88	2.85	2.85	2.76	2.75	2.56	2.63	2.59	2.63	2.79
2019	2.58	2.55	2.54	2.56	2.52	2.49	2.47	2.48	2.48	2.51	2.49	2.47	2.51
2020	2.50	2.47	2.37	2.43	2.46	2.43	2.46	2.43	2.39	2.39	2.34	2.26	2.41
2021	2.25	2.26	2.25	2.21	2.11	2.10	2.10	2.19	2.21	2.26	2.22		

26 - T4.5

COCOA BUTTER TO BEAN RATIO

RATIO



7 -C12.5

MONTHLY
1/08-11/21