The Beef Industry Looks to the Future

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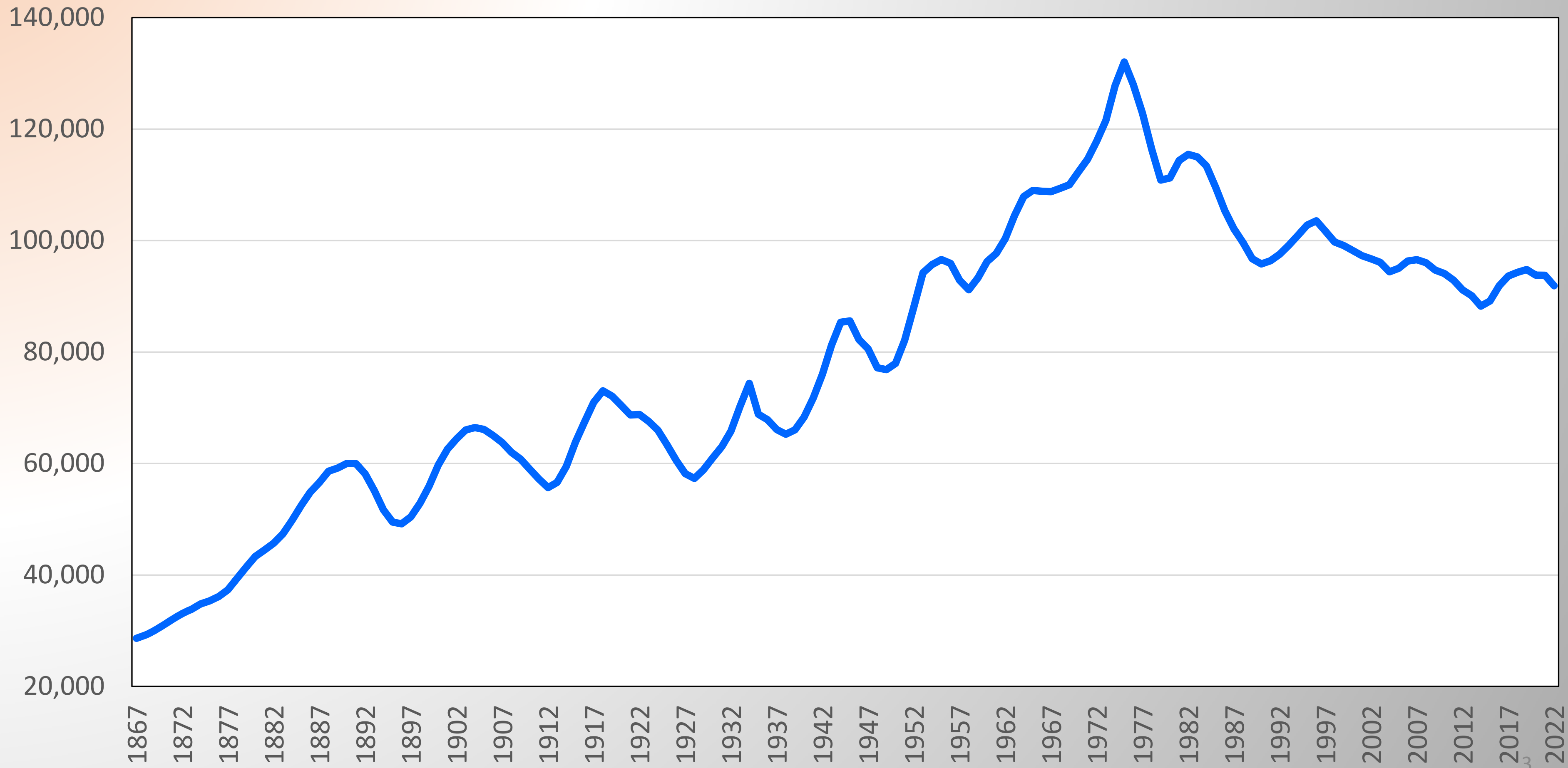
Beef Industry Issues, Challenges and Opportunities

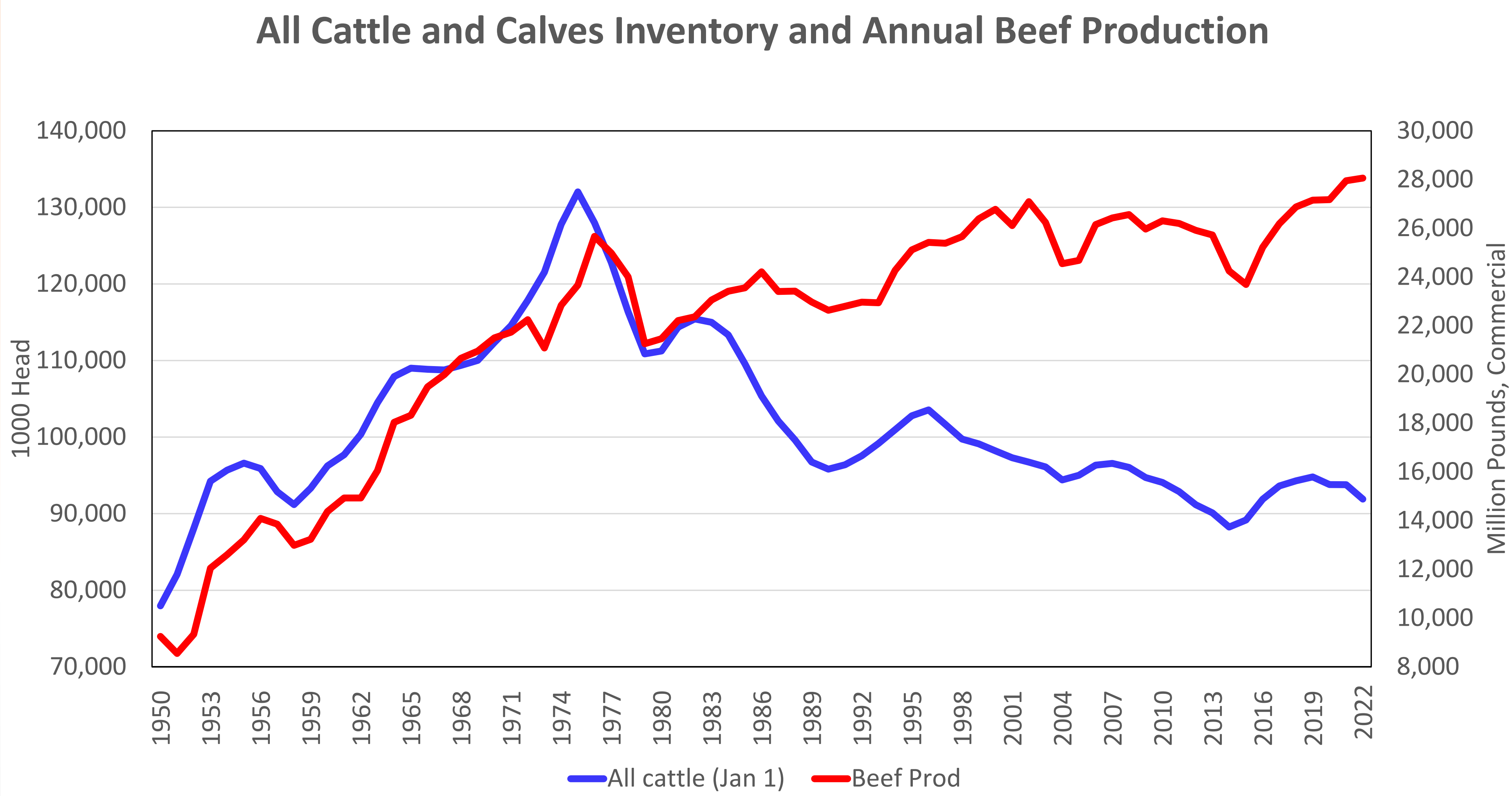
- Black Swans and macroeconomic concerns
- Industry infrastructure
- Beef demand
- Global market potential
- Drought and current situation

- To be remembered: many short-term independent decisions impact long-term industry direction

All Cattle and Calves

1000 Head, January 1



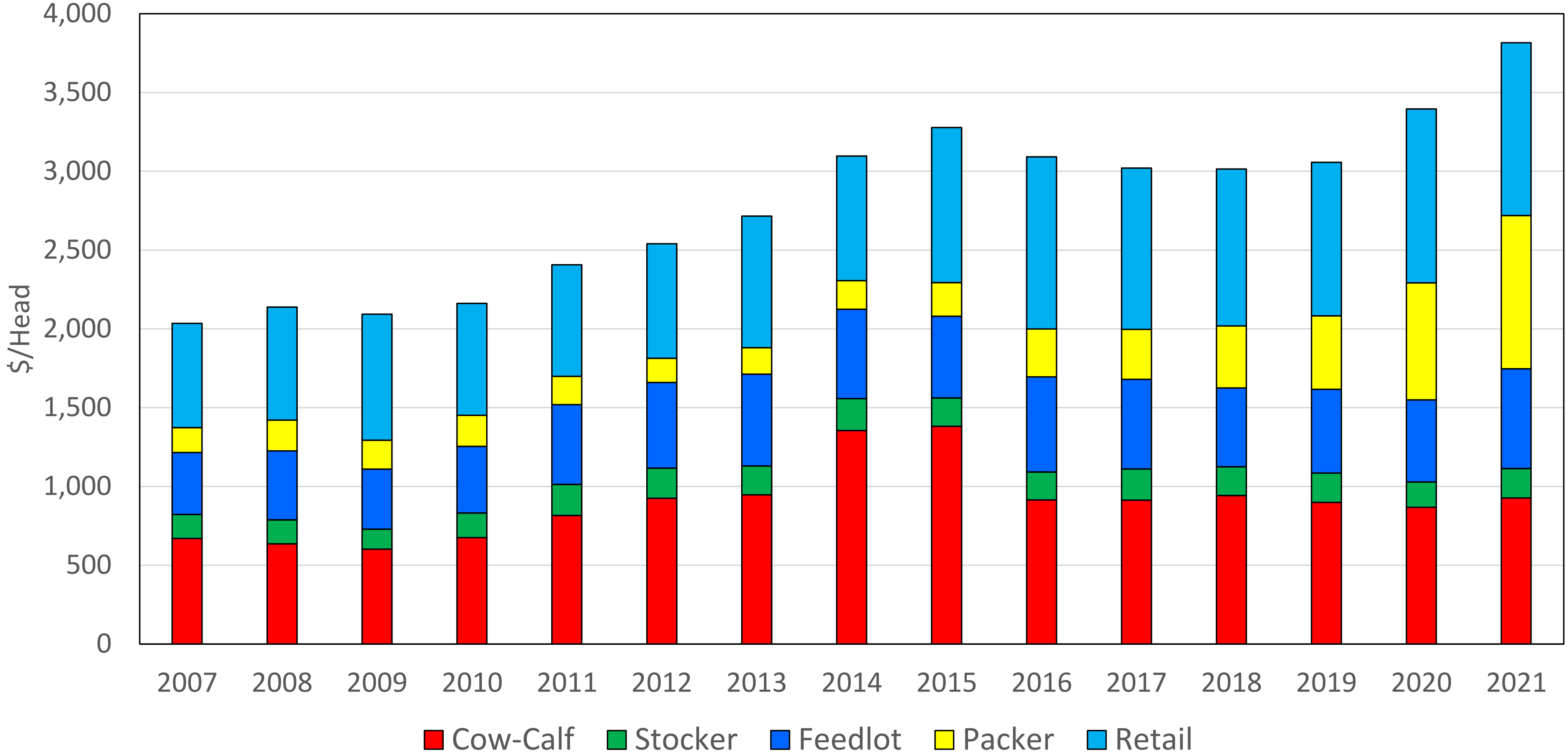


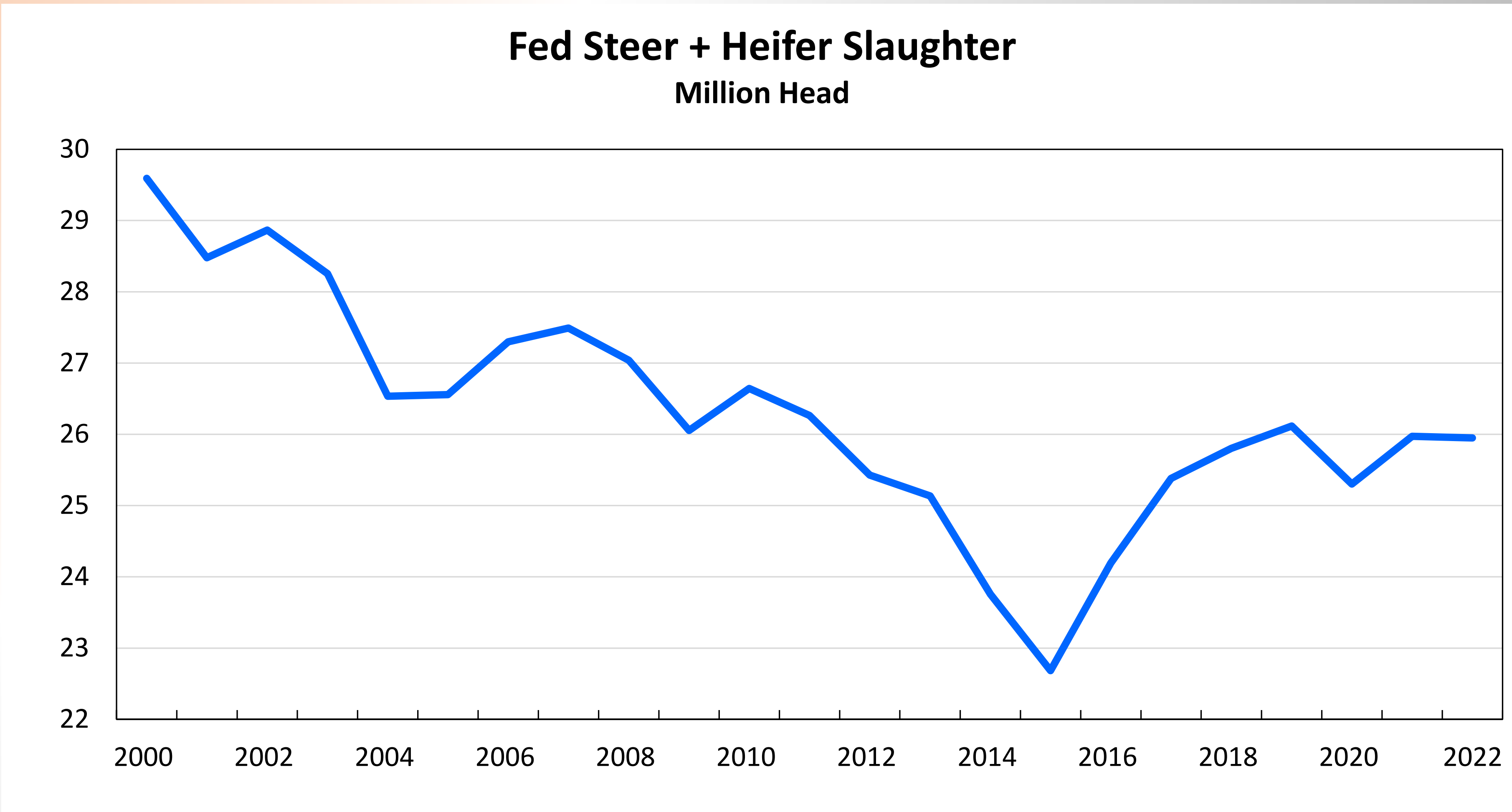
All Cattle and Calves Inventory and Annual Beef Production
1000 Head
Million Pounds, Commercial
140,000
130,000
120,000
110,000
100,000
90,000
80,000
70,000
30,000
28,000
26,000
24,000
22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
1950
1953
1956
1959
1962
1965
1968
1971
1974
1977
1980
1983
1986
1989
1992
1995
1998
2001
2004
2007
2010
2013
2016
2019
2022
All cattle (Jan 1)
Beef Prod

Industry Infrastructure Adjusts Very Slowly

- Most packing infrastructure was built in the 1980s or earlier.
- Chronic excess capacity since 1974 as cattle inventories declined.
- Slow adjustments:
  - 2000 ConAgra Kansas plant burned & not rebuilt
  - 2008 Tyson closes Emporia plant
  - 2013 Cargill closes Plainview
- Herd expansion from 2014 - 2019 and chronic labor problems resulted in under capacity.
- Feedlot industry has expanded over time.

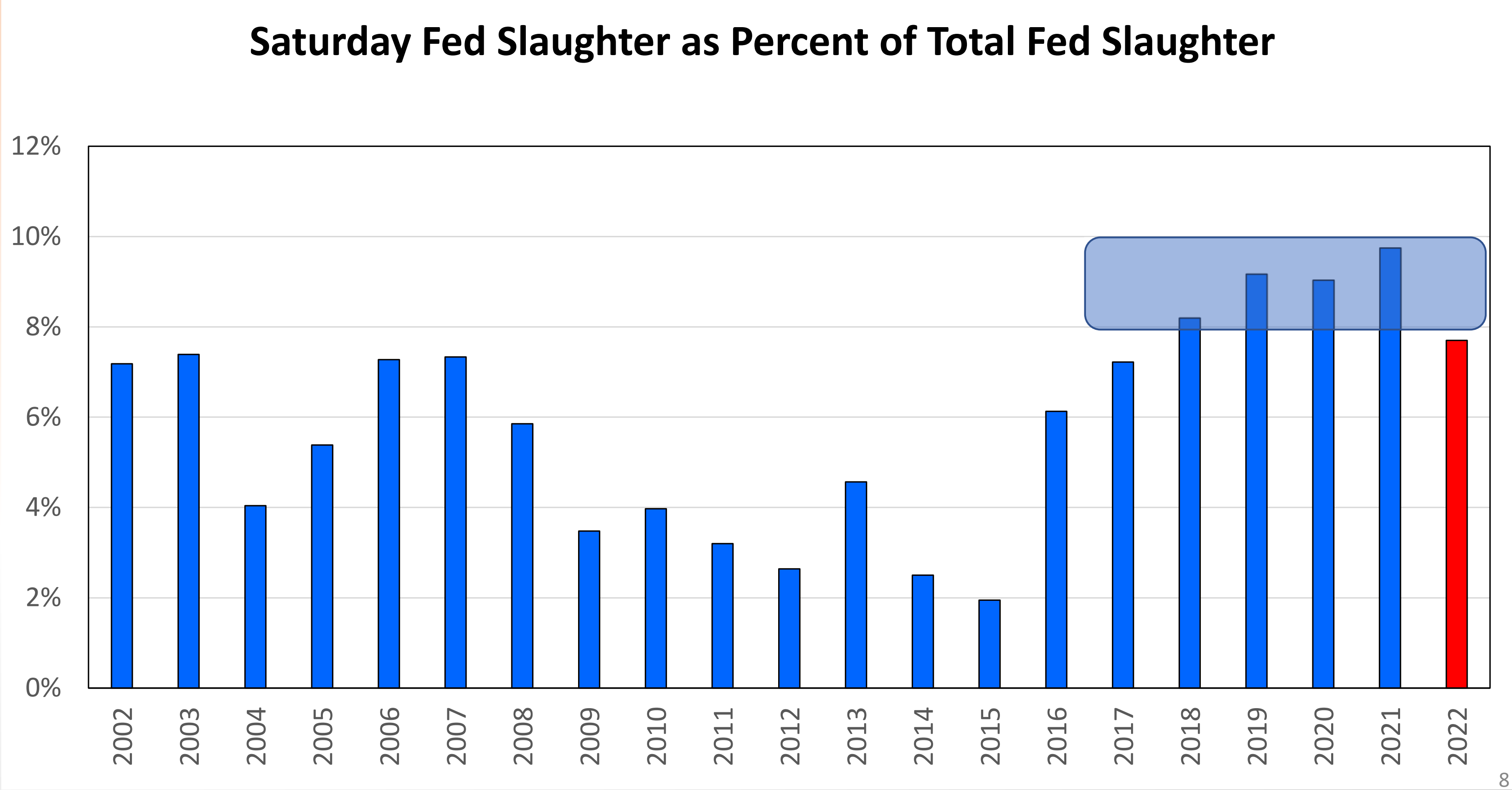
Share of Retail Animal Value

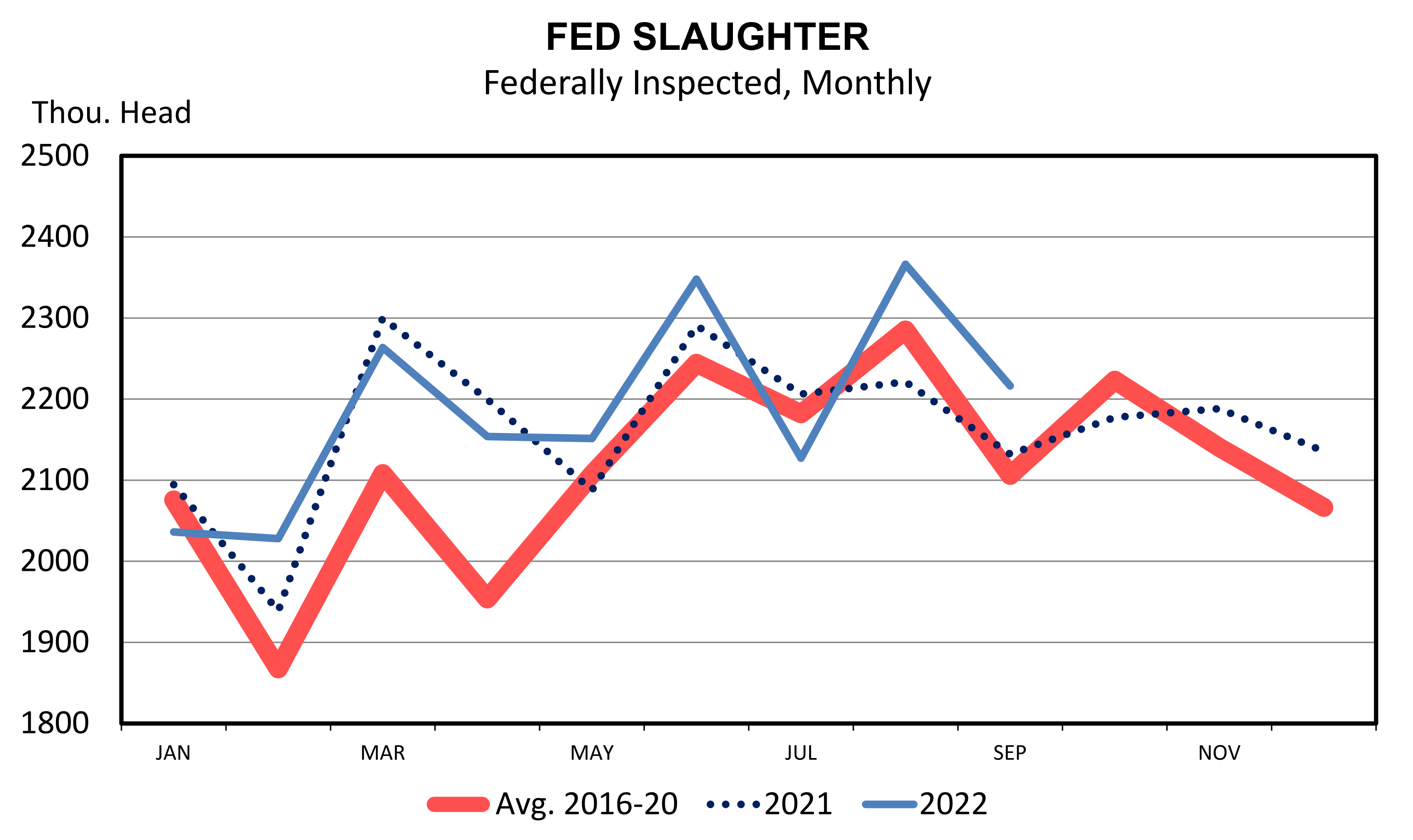




Fed Steer + Heifer Slaughter
Million Head
30
29
28
27
26
25
24
23
22
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022

Labor issues less severe in 2022!





Data Source: USDA-NASS

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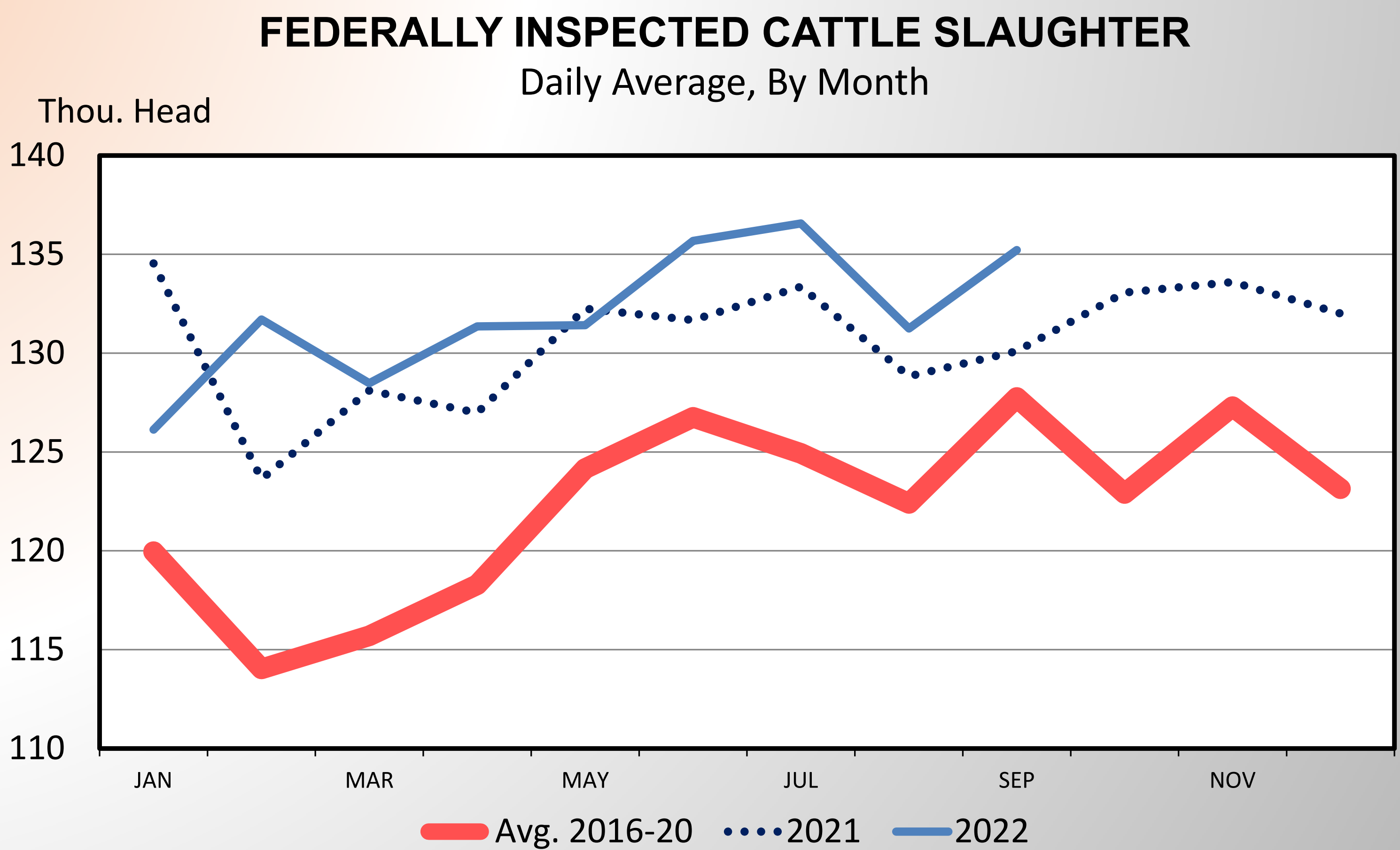
C-S-16
09/22/22



Data Source: USDA-NASS, Compiled by LMIC

C-S-04
10/20/22

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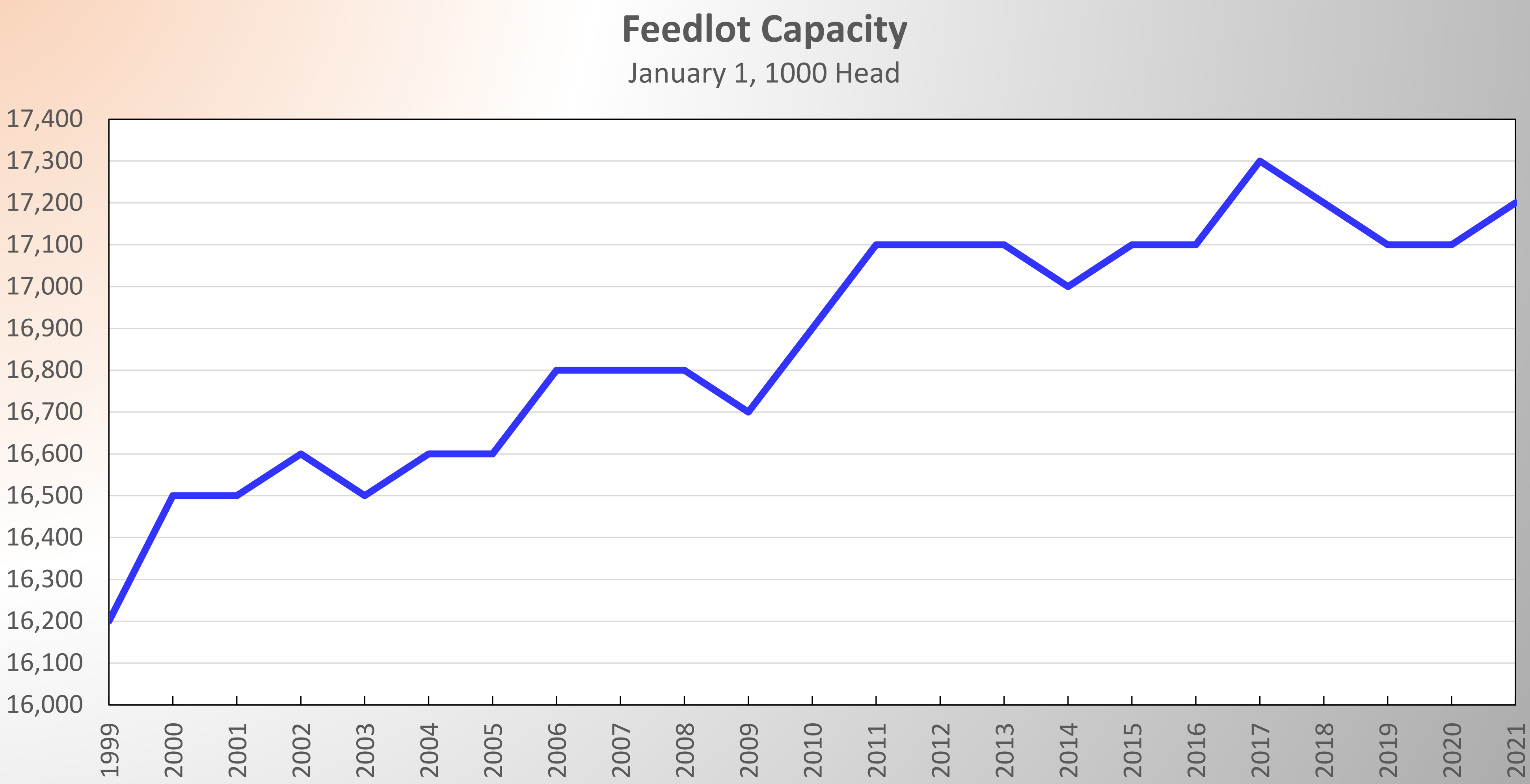
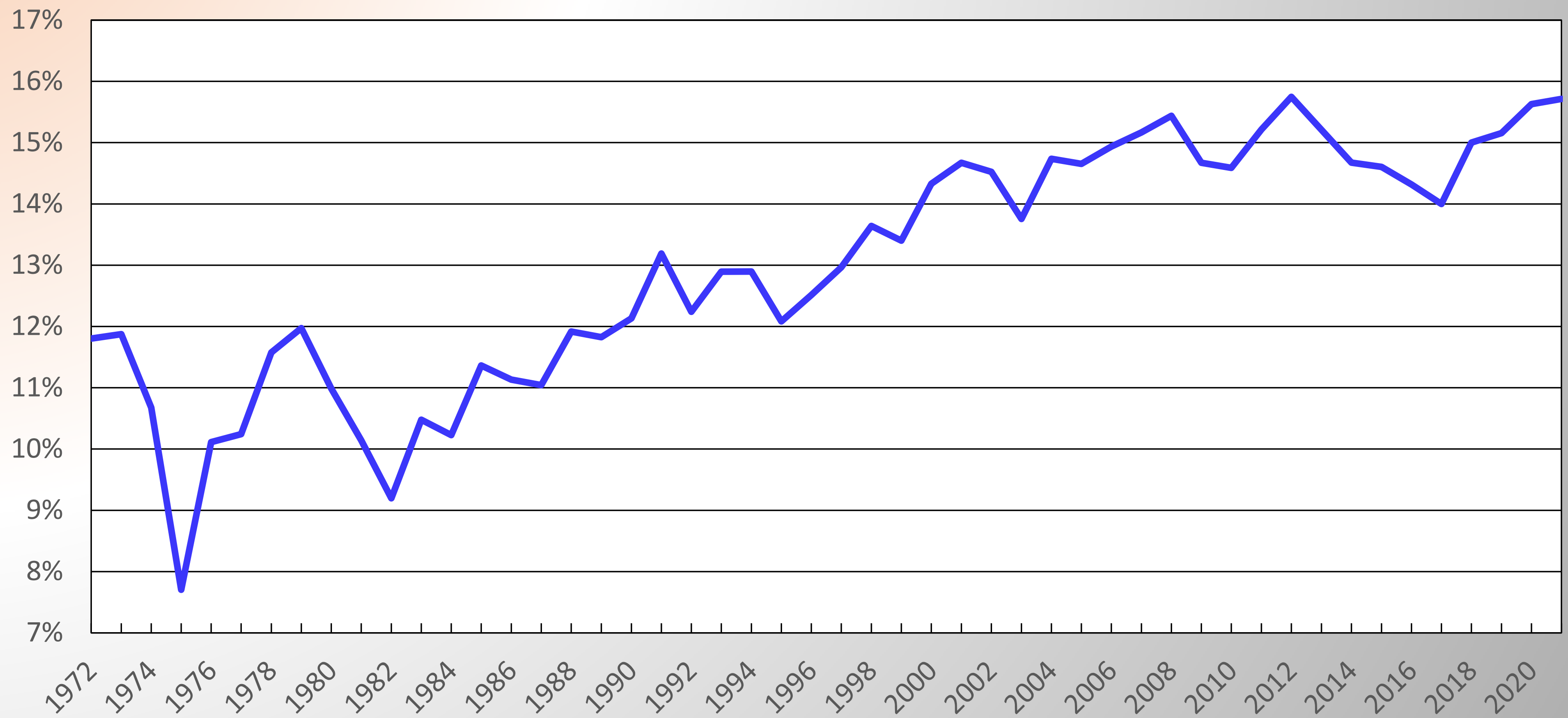
Packer Capacity Not An Issue – For Now

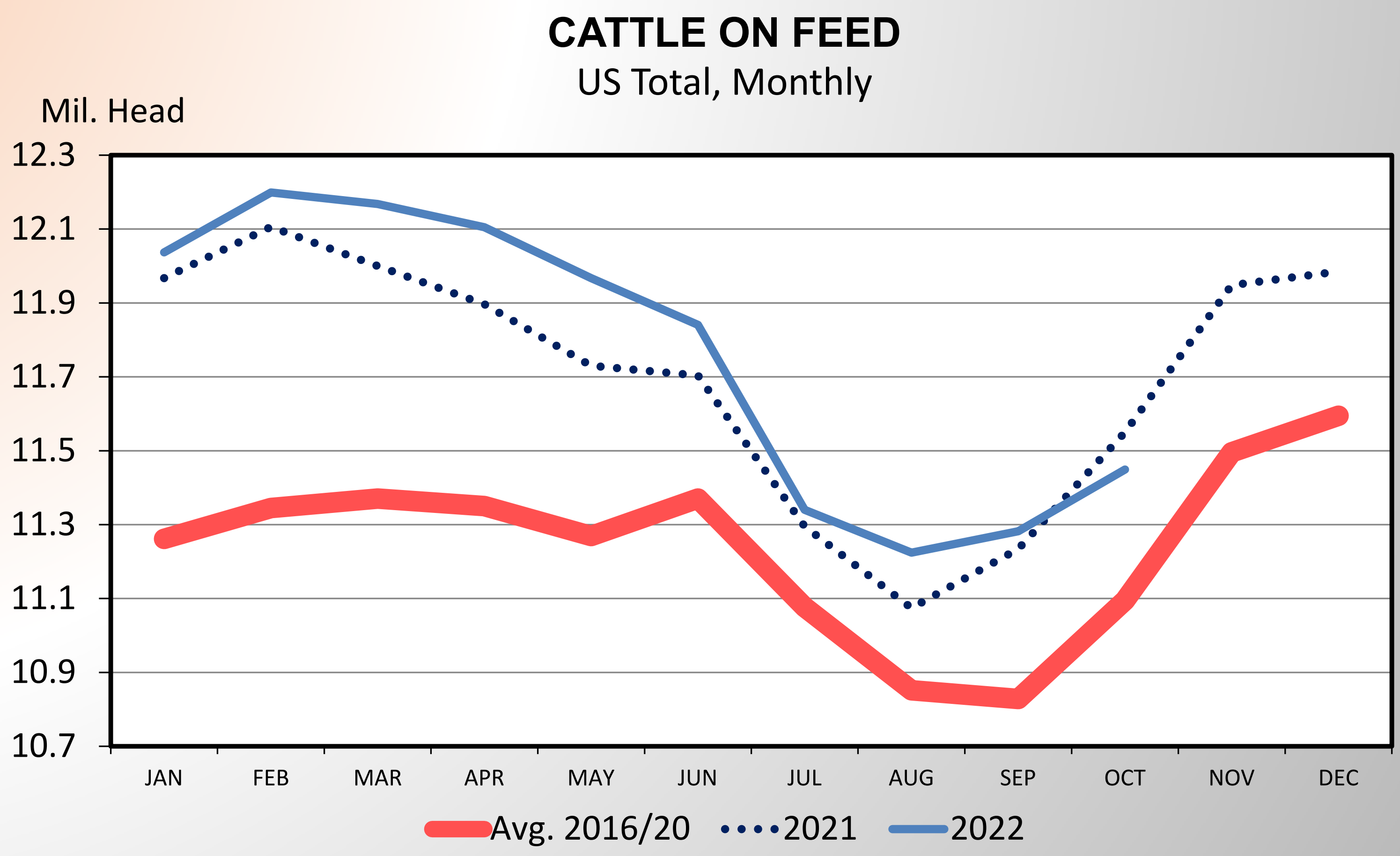
- Lower cattle numbers for several years
  - Herd rebuilding after drought
- New plants will add to capacity
  - Significant additional capacity proposed
  - Not all projects will be completed
  - Timing will be important
- Additional capacity is needed long term
  - To replace aging existing capacity
  - To grow long-term international demand


Feedlot Capacity
January 1, 1000 Head
17,400
17,300
17,200
17,100
17,000
16,900
16,800
16,700
16,600
16,500
16,400
16,300
16,200
16,100
16,000
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021

Cattle on Feed Inventory as % of All Cattle and Calves

January 1





Data Source: USDA-NASS

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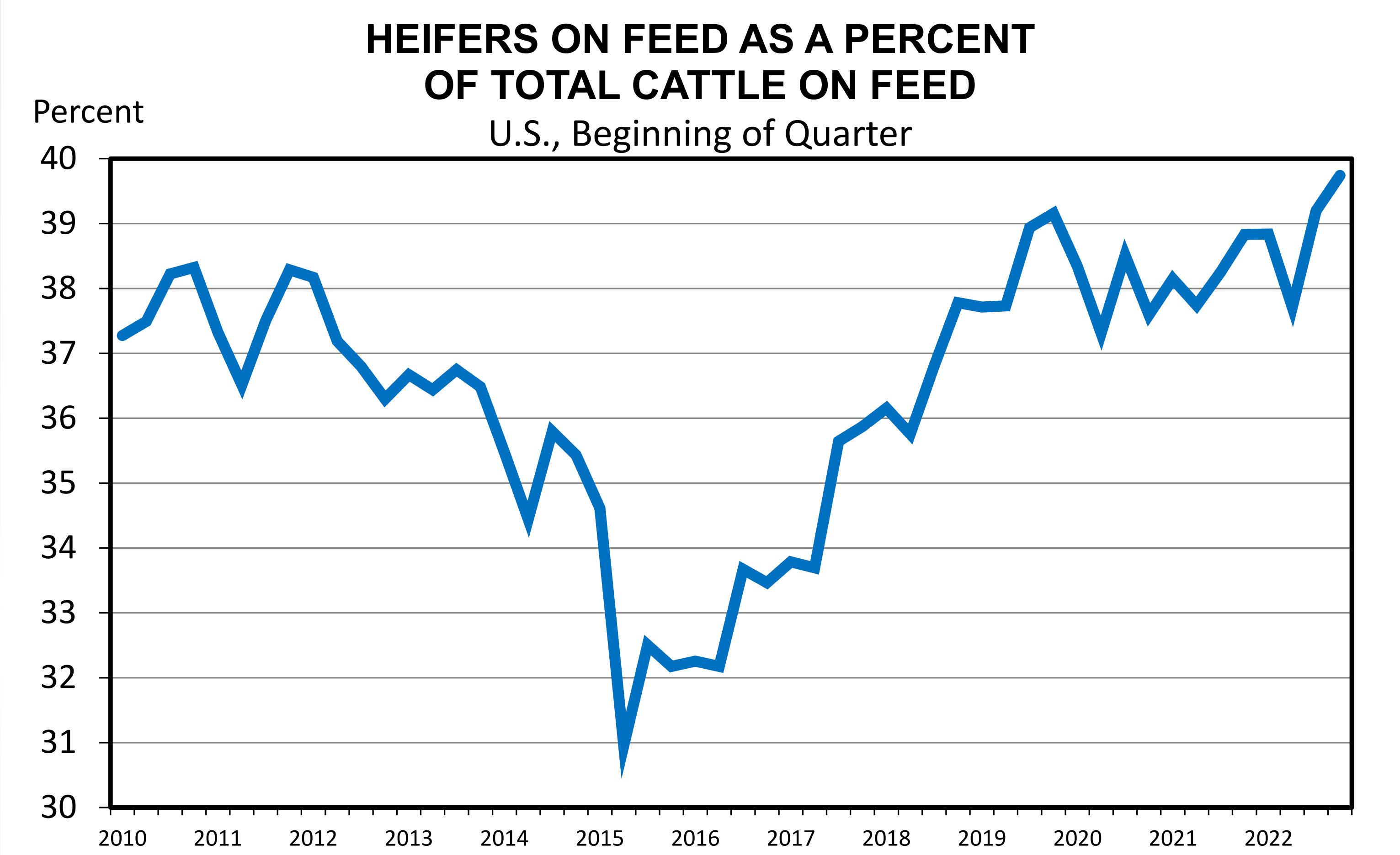
C-N-10
10/21/22



Data Source: USDA-NASS, Compiled by LMIC

10/21/22

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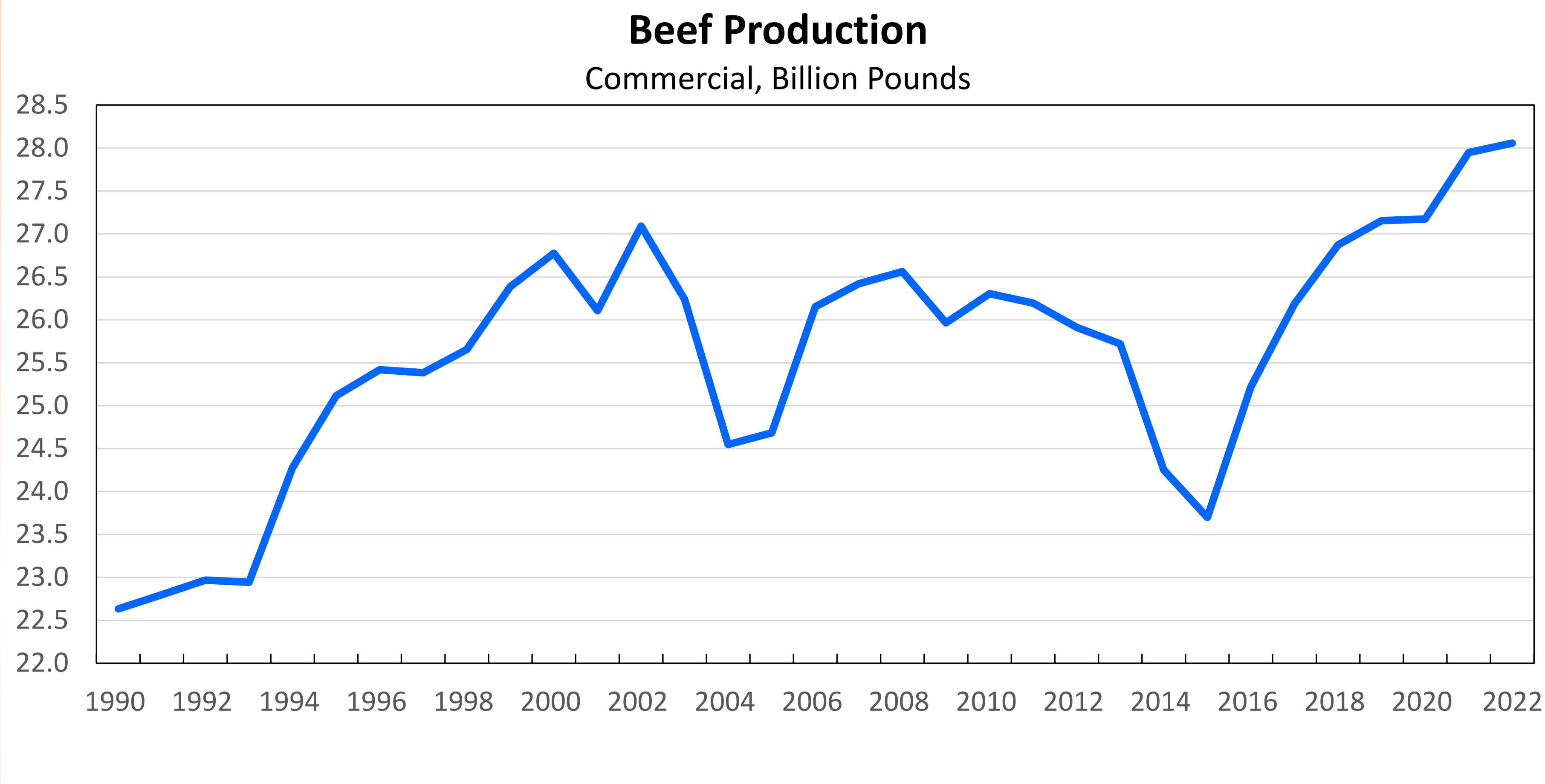
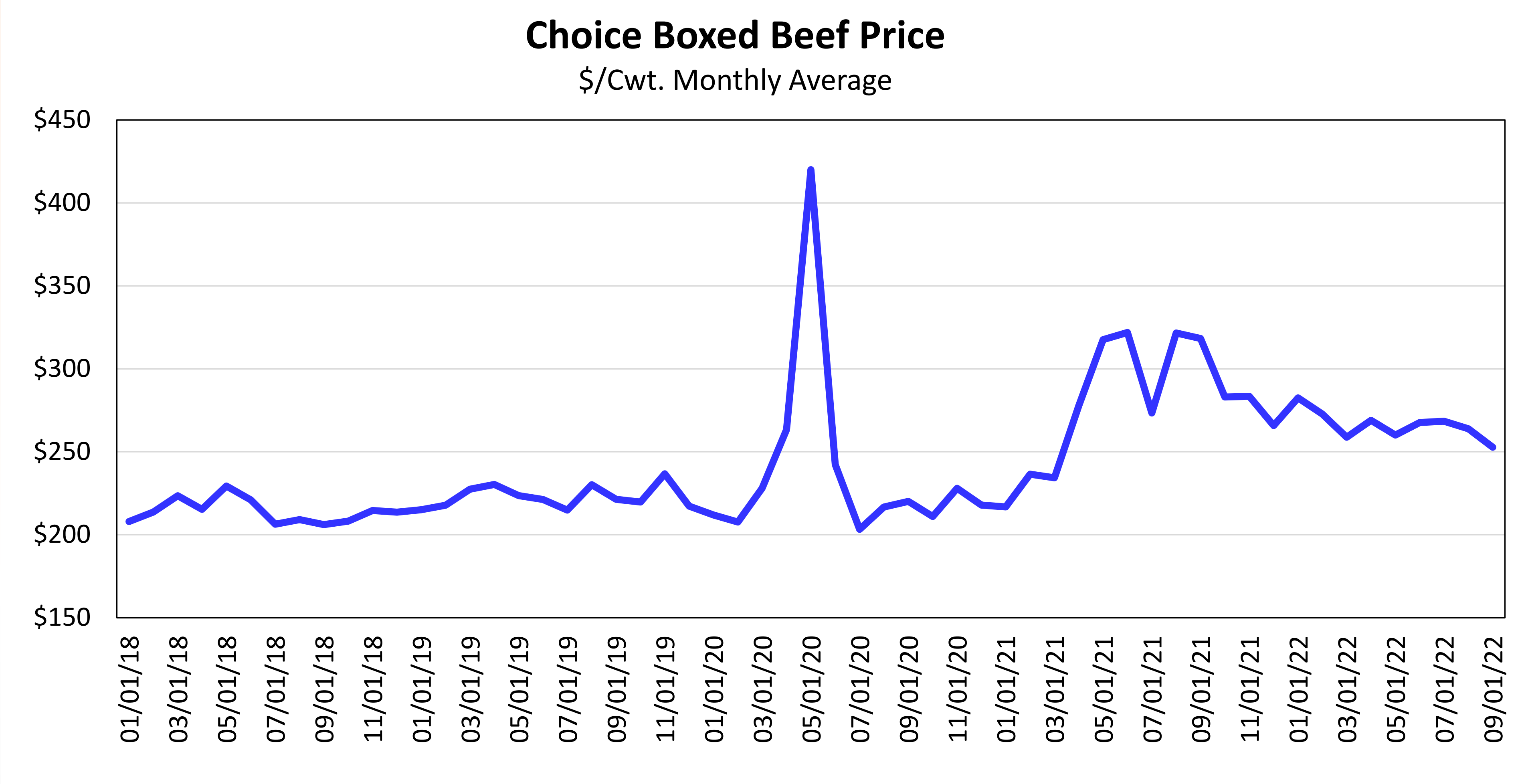

Beef Production
Commercial, Billion Pounds
28.5
28.0
27.5
27.0
26.5
26.0
25.5
25.0
24.5
24.0
23.5
23.0
22.5
22.0
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022


Choice Boxed Beef Price
$/Cwt. Monthly Average
$450
$400
$350
$300
$250
$200
$150
01/01/18
03/01/18
05/01/18
07/01/18
09/01/18
11/01/18
01/01/19
03/01/19
05/01/19
07/01/19
09/01/19
11/01/19
01/01/20
03/01/20
05/01/20
07/01/20
09/01/20
11/01/20
01/01/21
03/01/21
05/01/21
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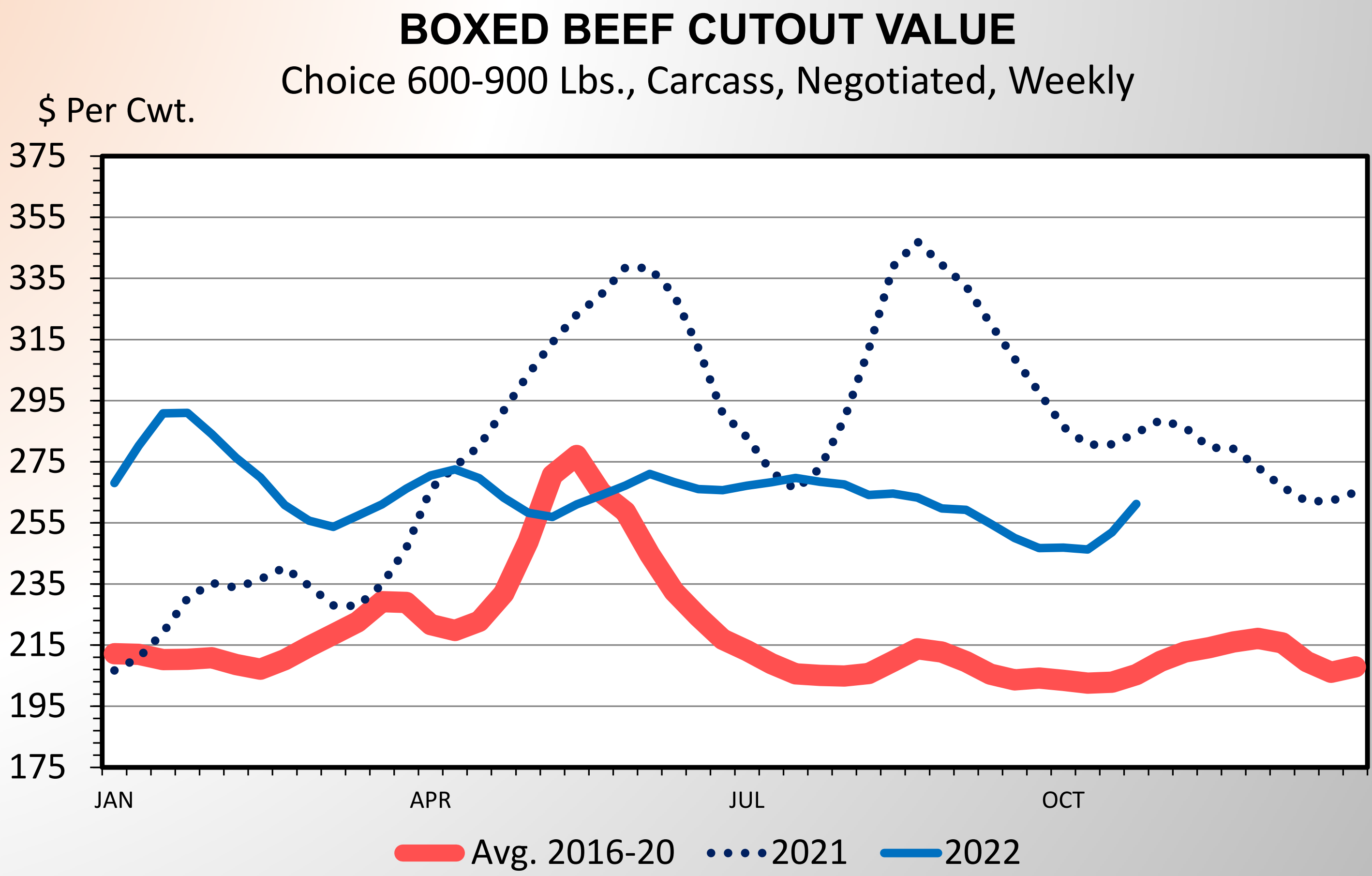
09/01/21
11/01/21
01/01/22
03/01/22
05/01/22
07/01/22
09/01/22



Data Source: USDA-AMS

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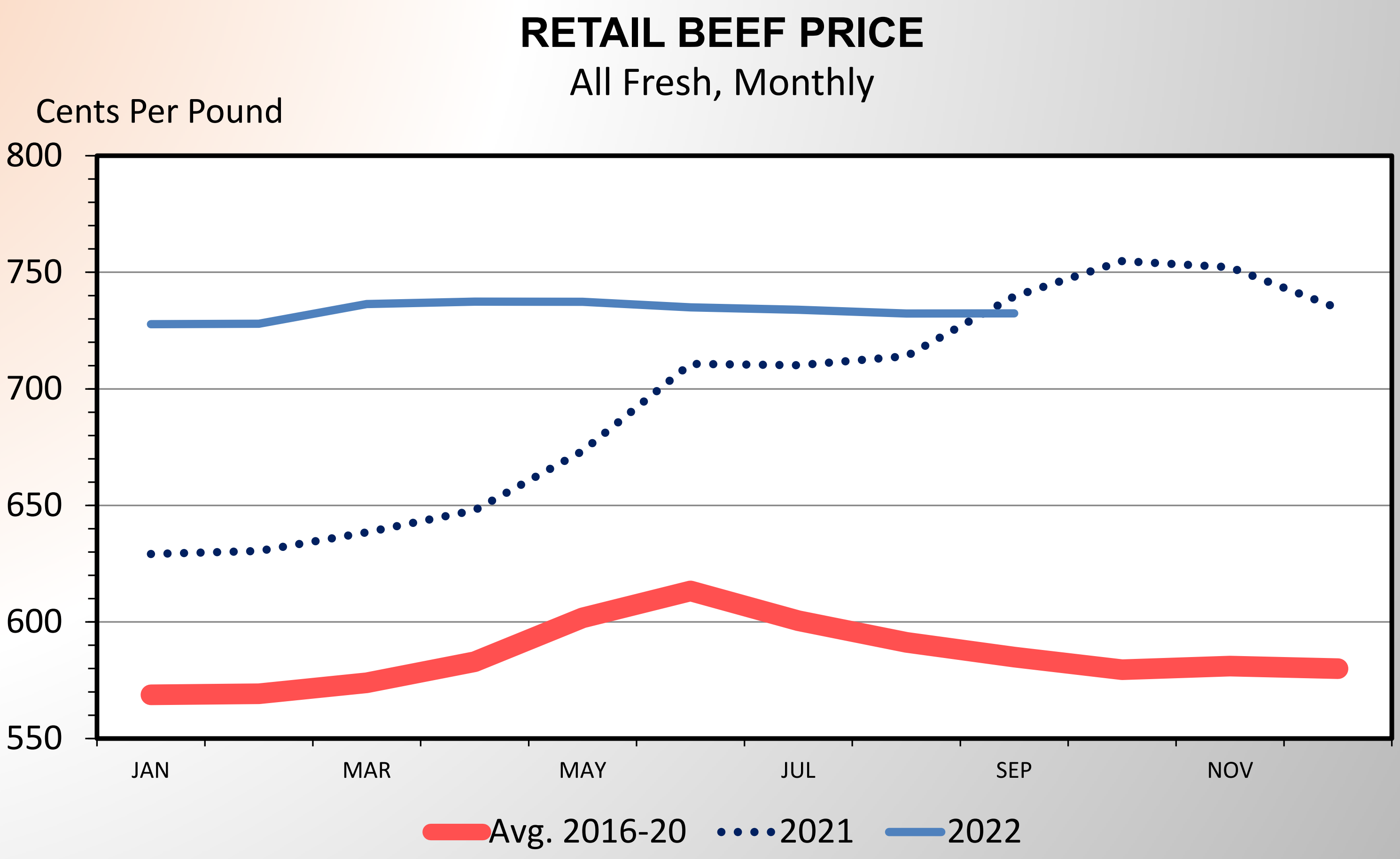
C-P-62
10/31/22



Data Source: Bureau of Labor Statistics & USDA-ERS

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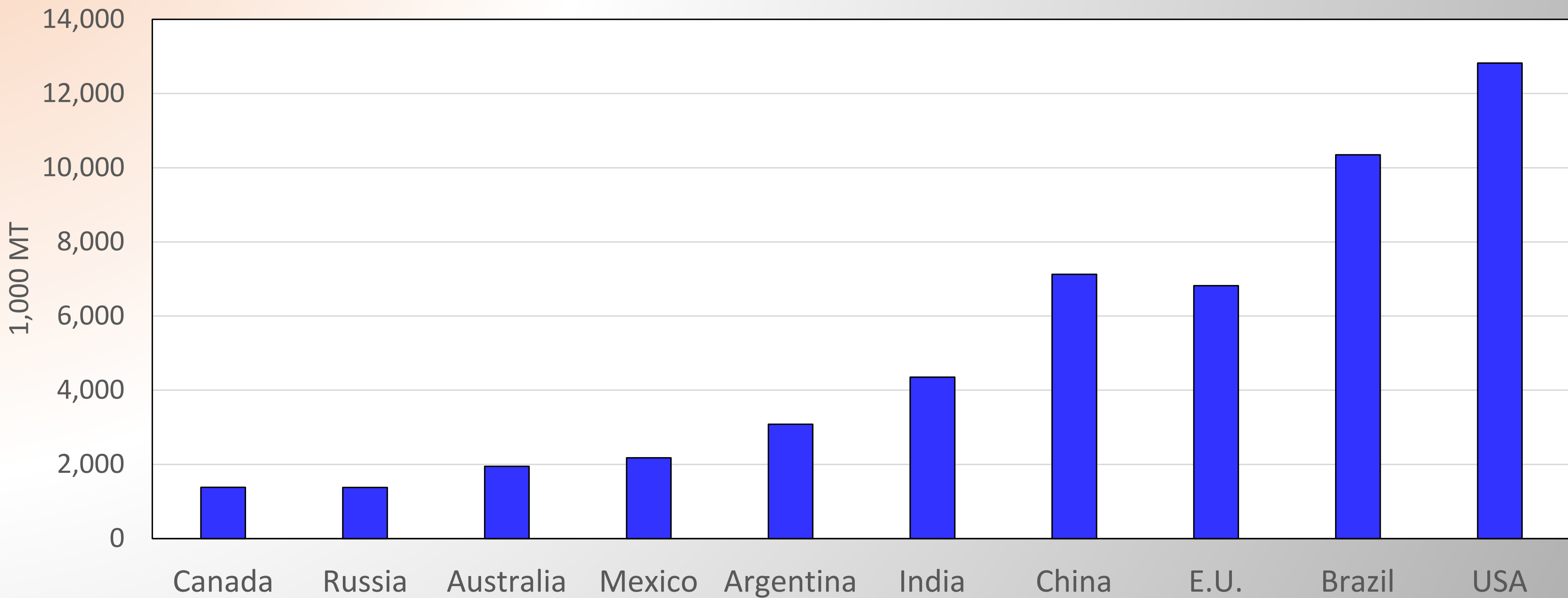
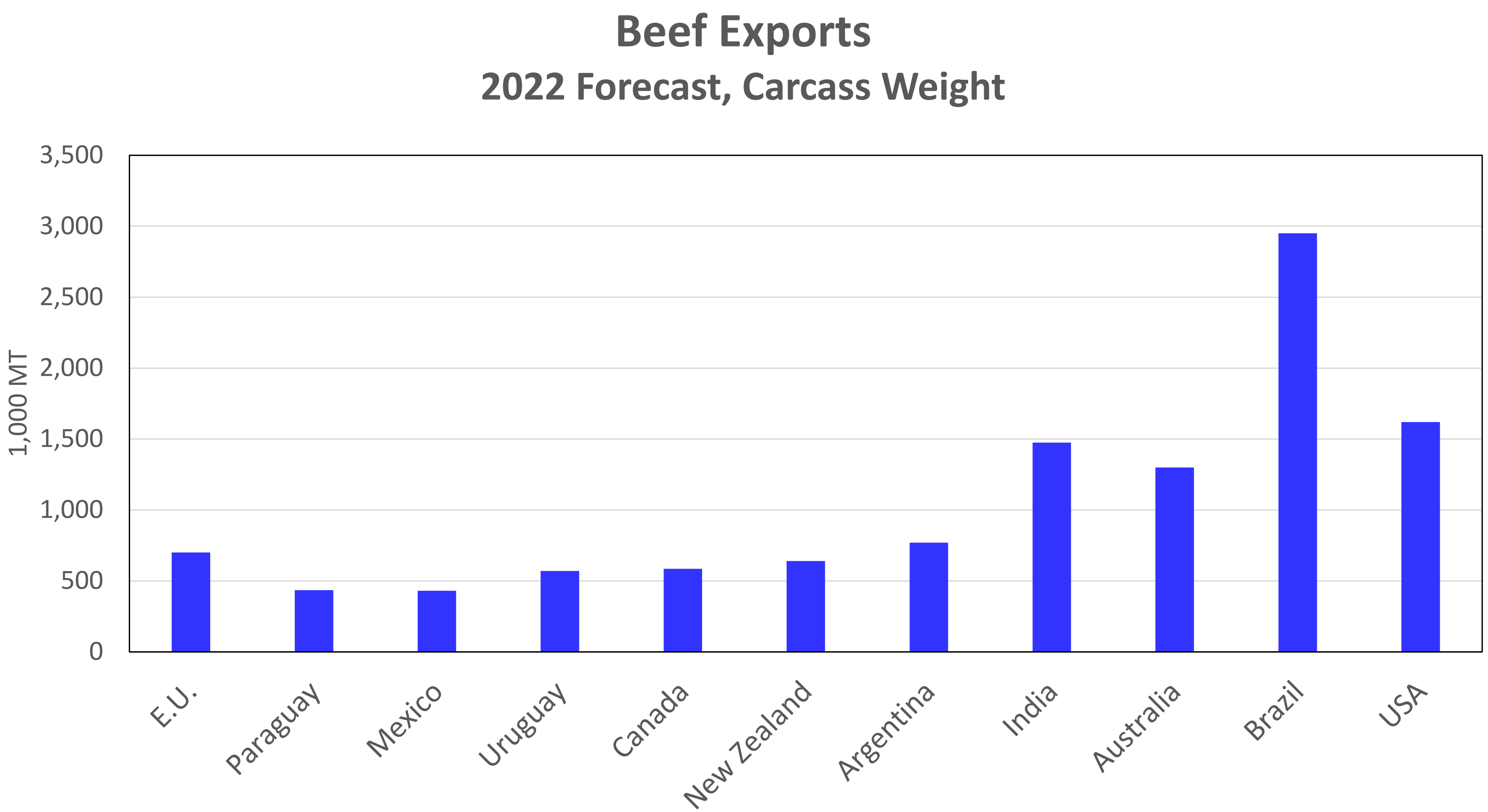
M-P-11
10/13/22

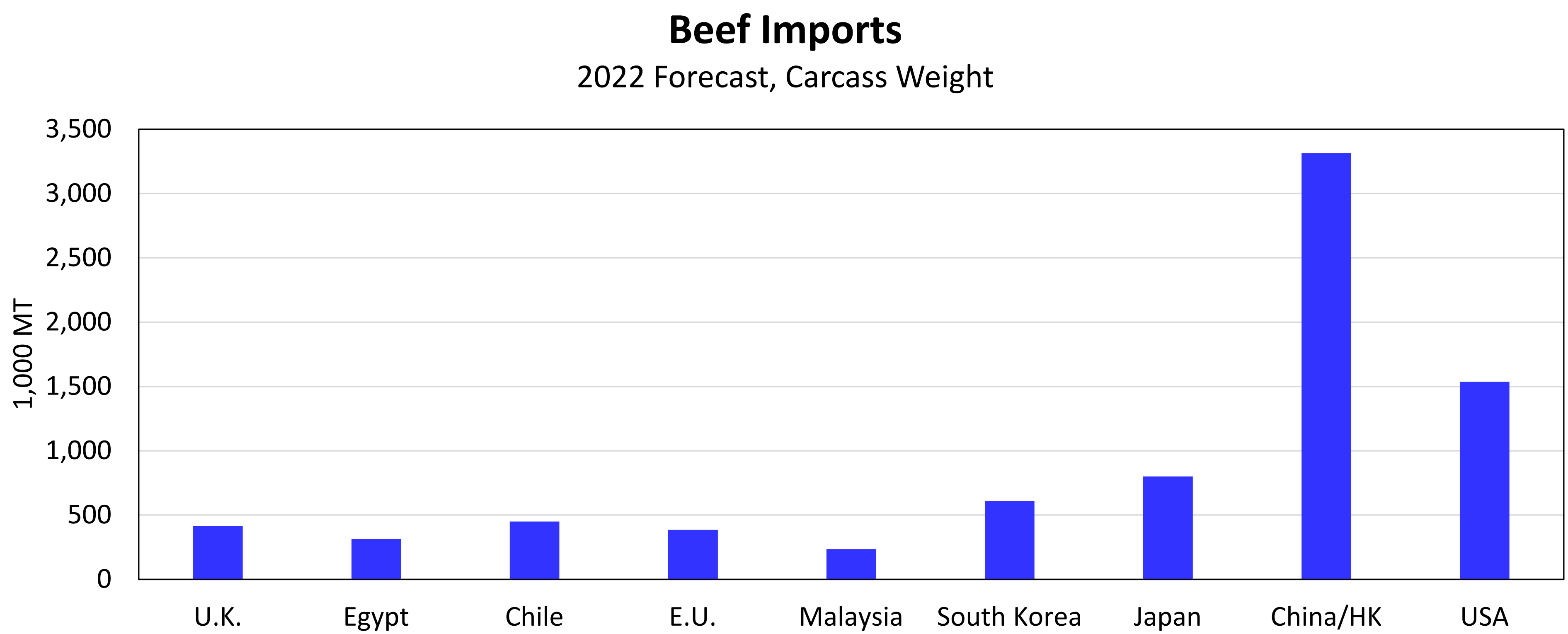
Beef Production
2022 Forecast, Carcass Weight



USDA-FAS, October 2022

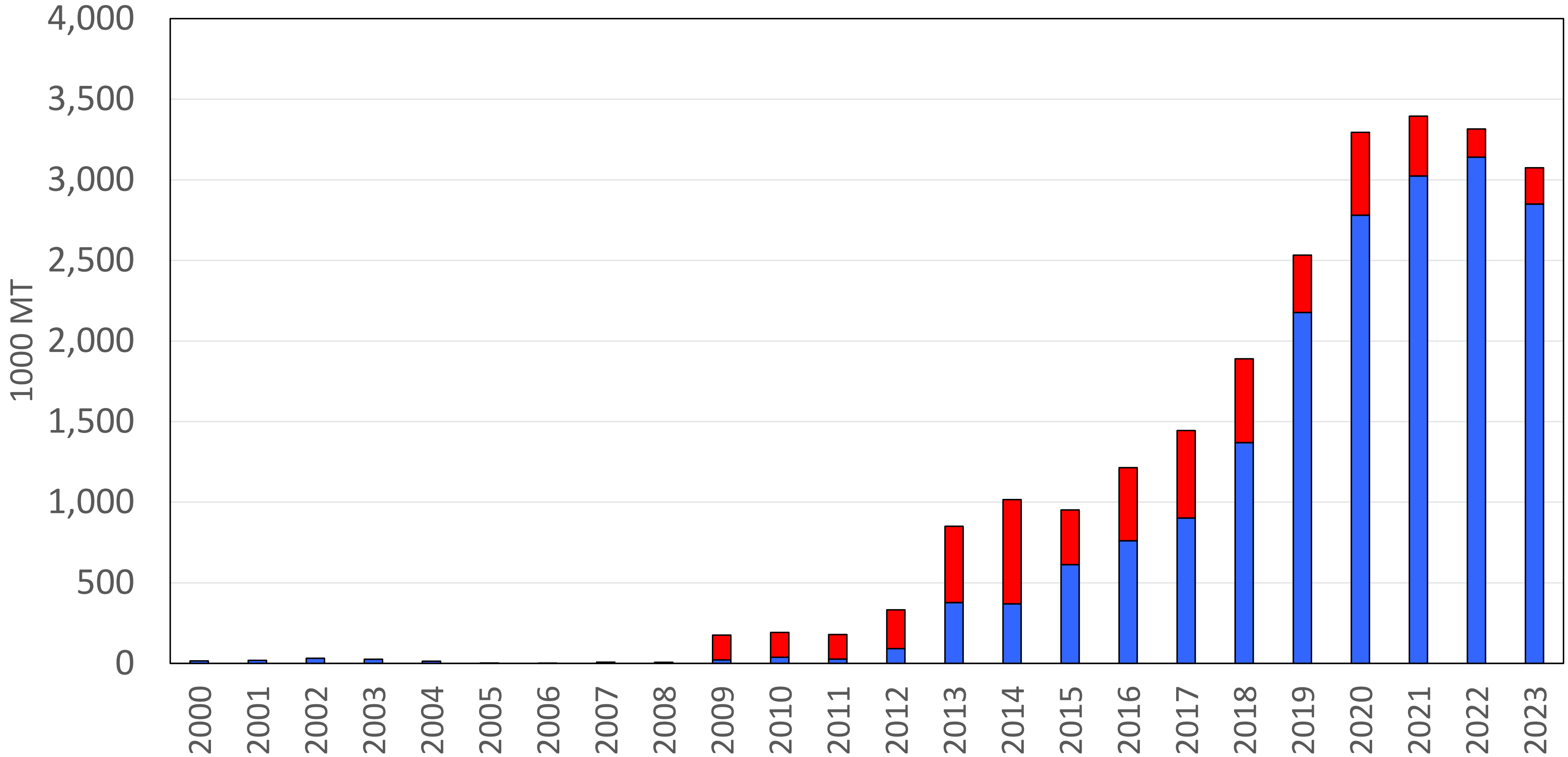


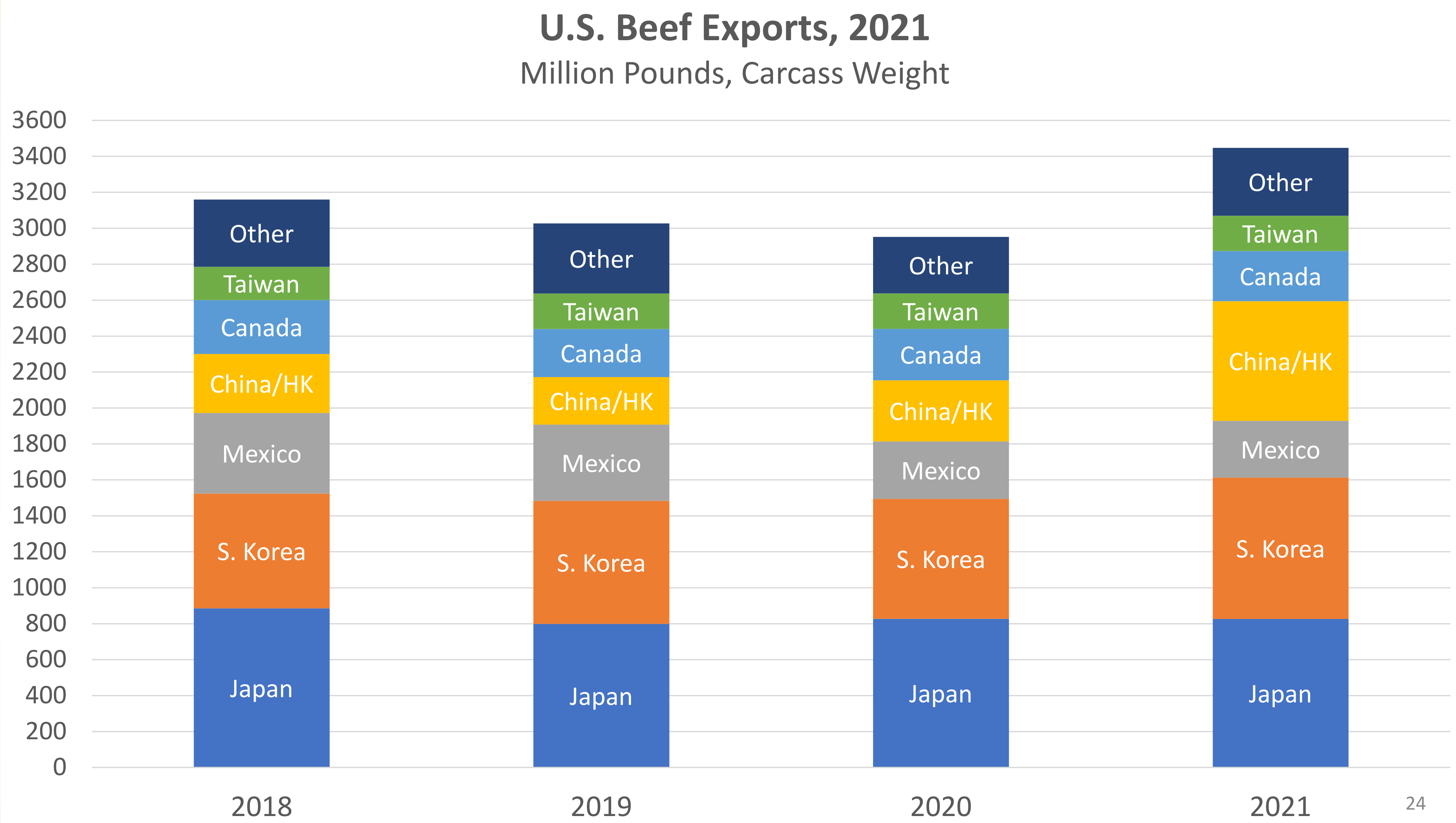
USDA-FAS, October 2022



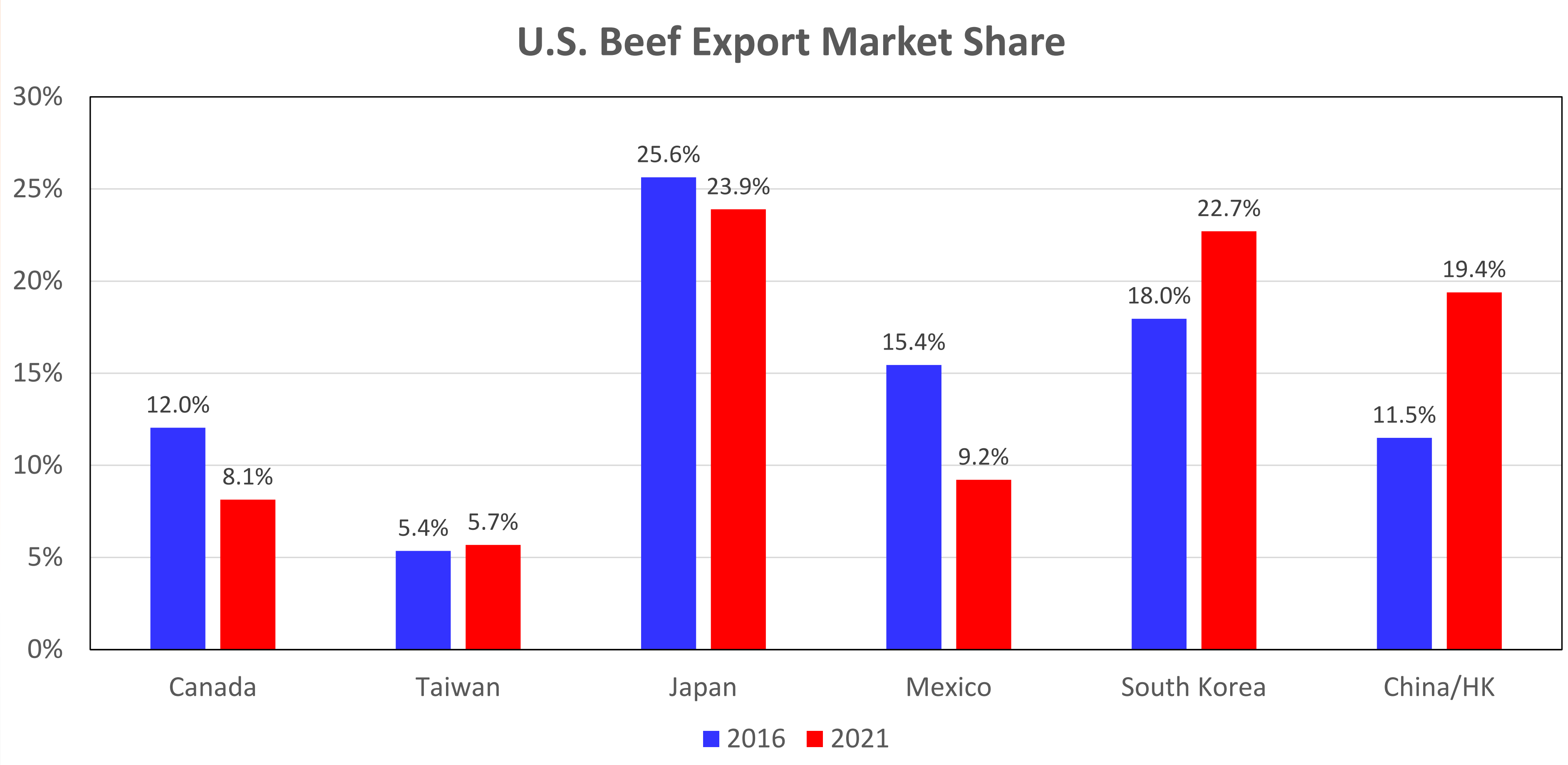
USDA-FAS, October 2022

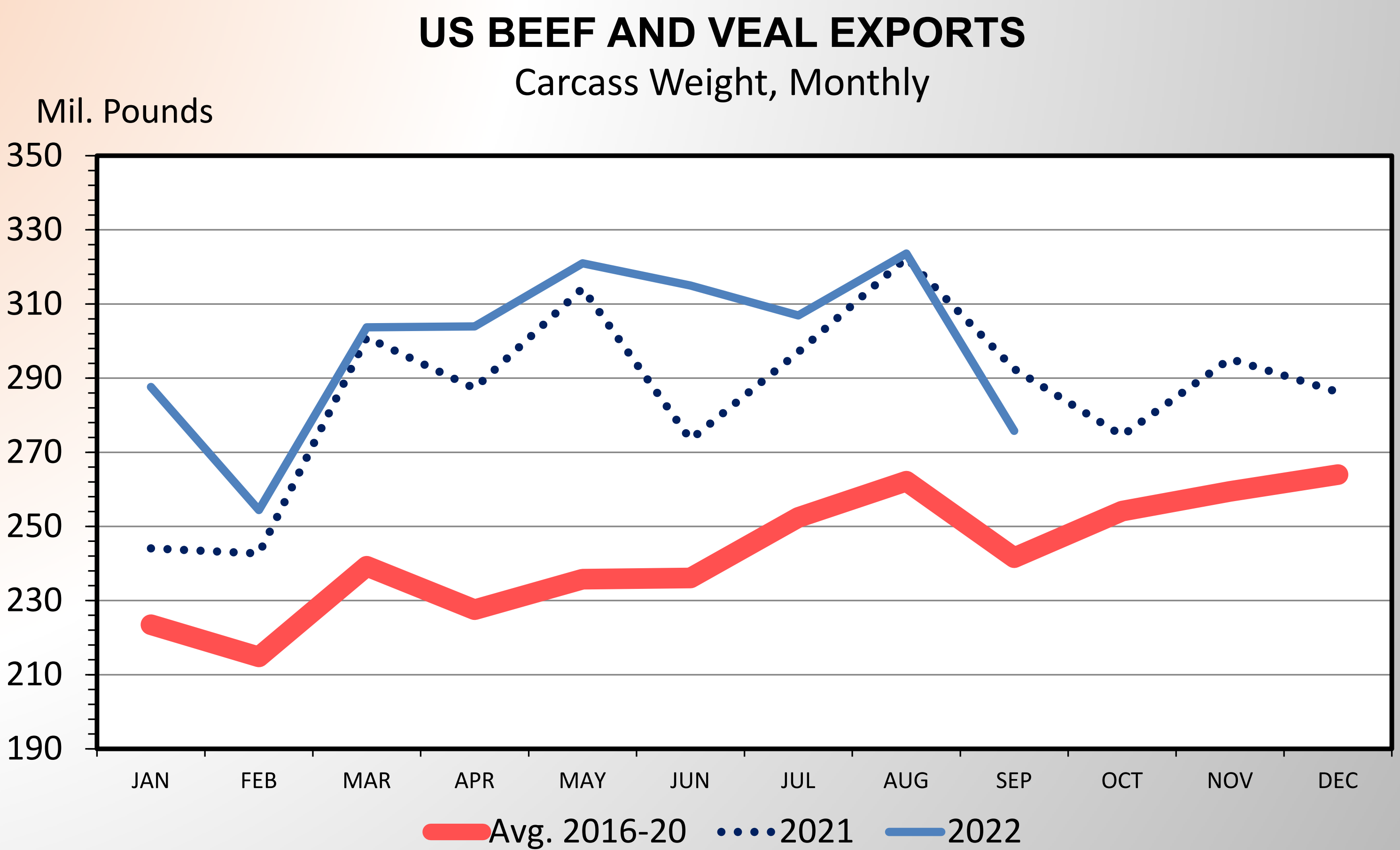
China/Hong Kong Beef Imports





U.S. Beef Exports, 2021
Million Pounds, Carcass Weight
3600
3400
3200
3000
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Other
Taiwan
Canada
China/HK
Mexico
S. Korea
Japan
2018
2019
2020
2021


U.S. Beef Export Market Share
30%
25%
20%
15%
10%
5%
0%
12.0%
8.1%
5.4%
5.7%
25.6%
23.9%
15.4%
9.2%
18.0%
22.7%
11.5%
19.4%
Canada
Taiwan
Japan
Mexico
South Korea
China/HK
2016
2021



Data Source: USDA-ERS & USDA-FAS

I-N-16
11/04/22

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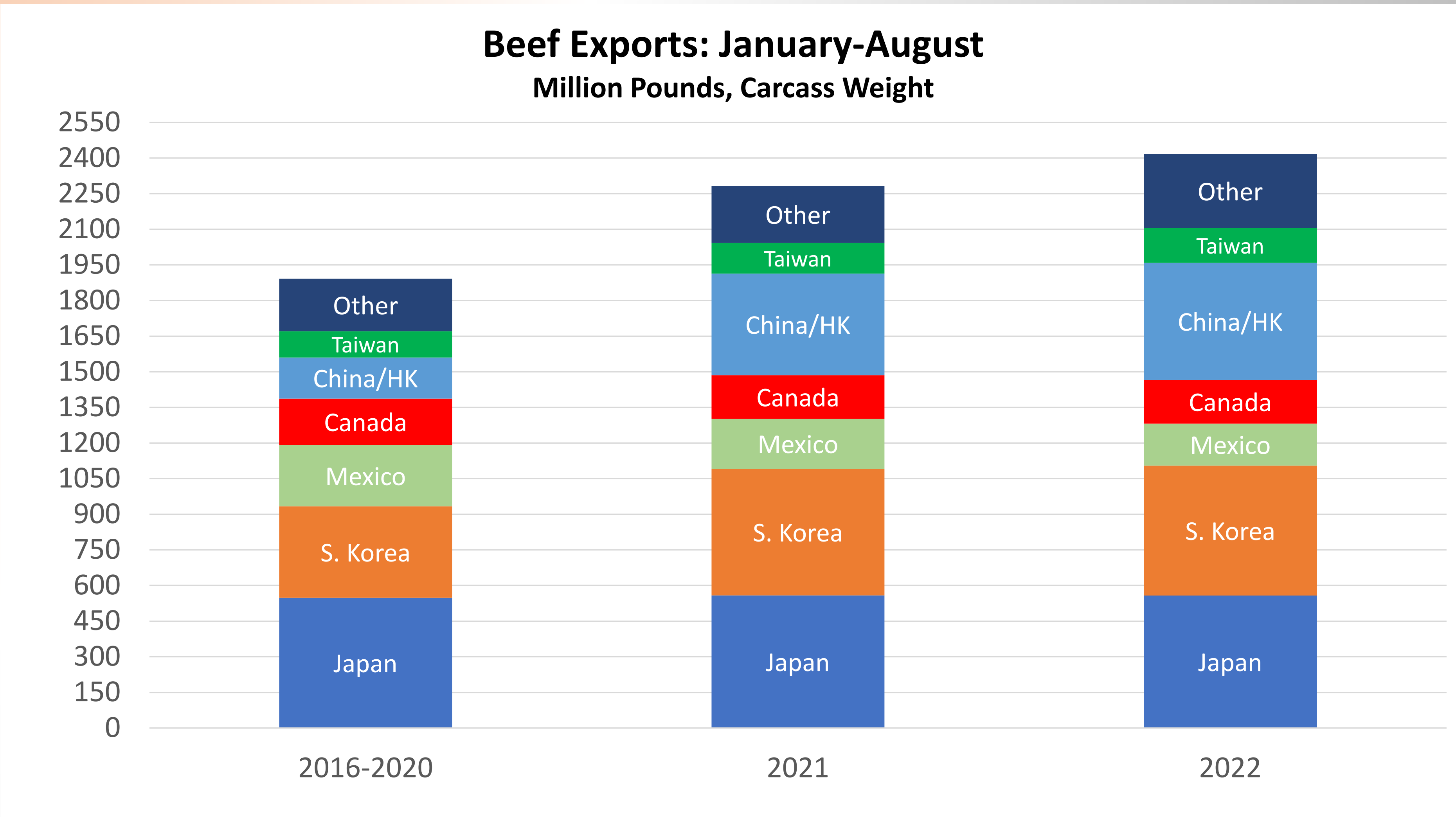
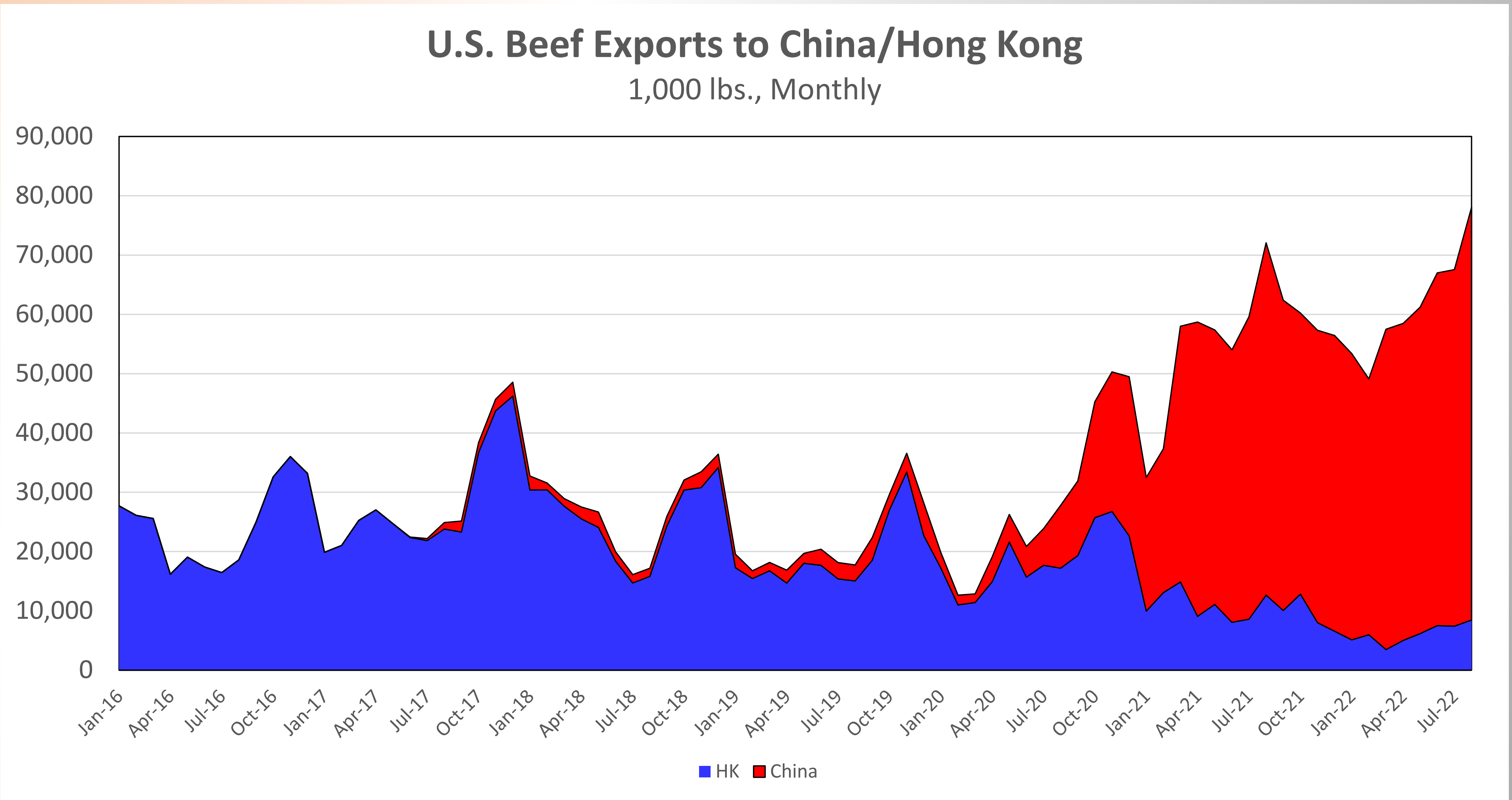
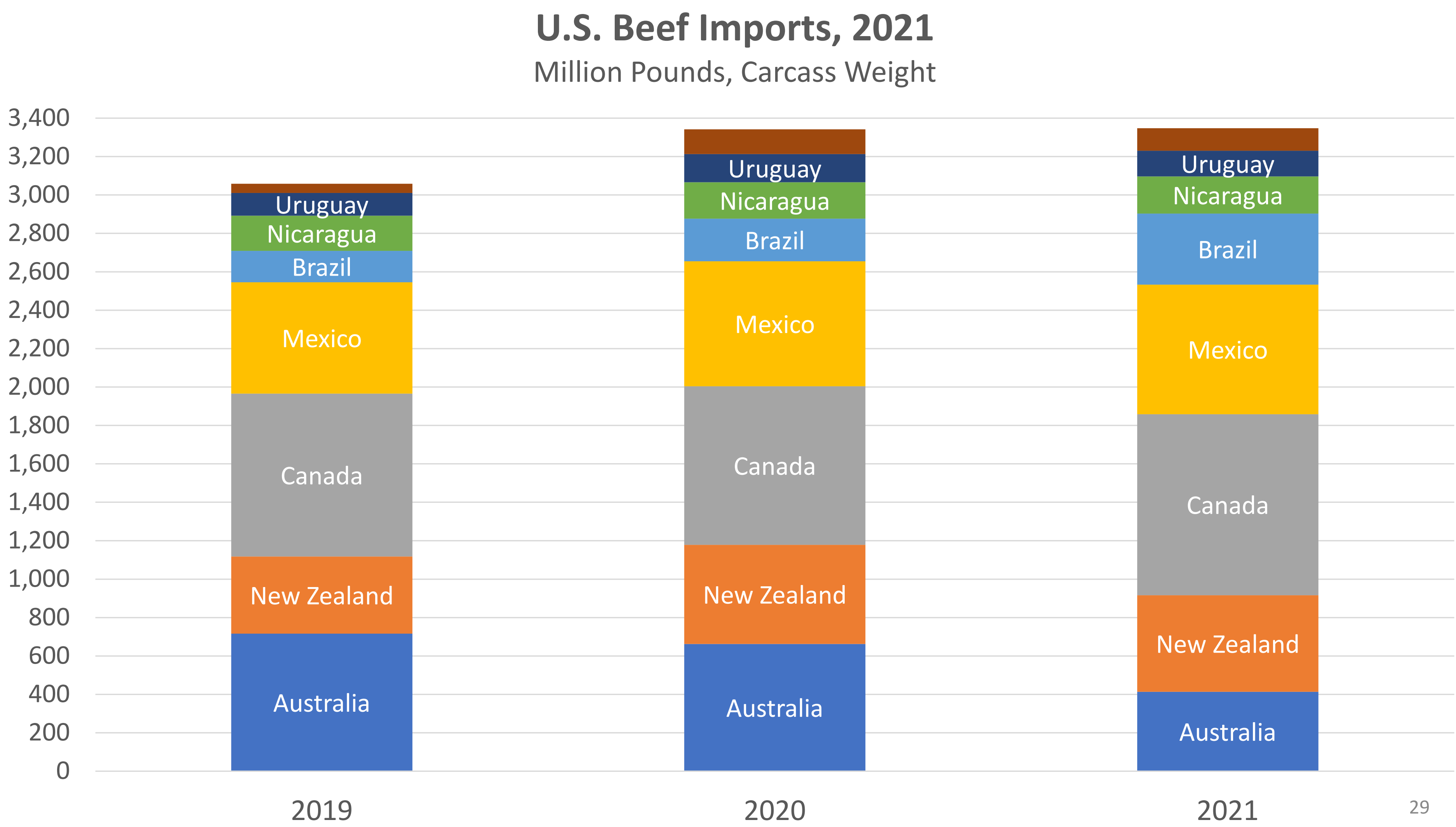
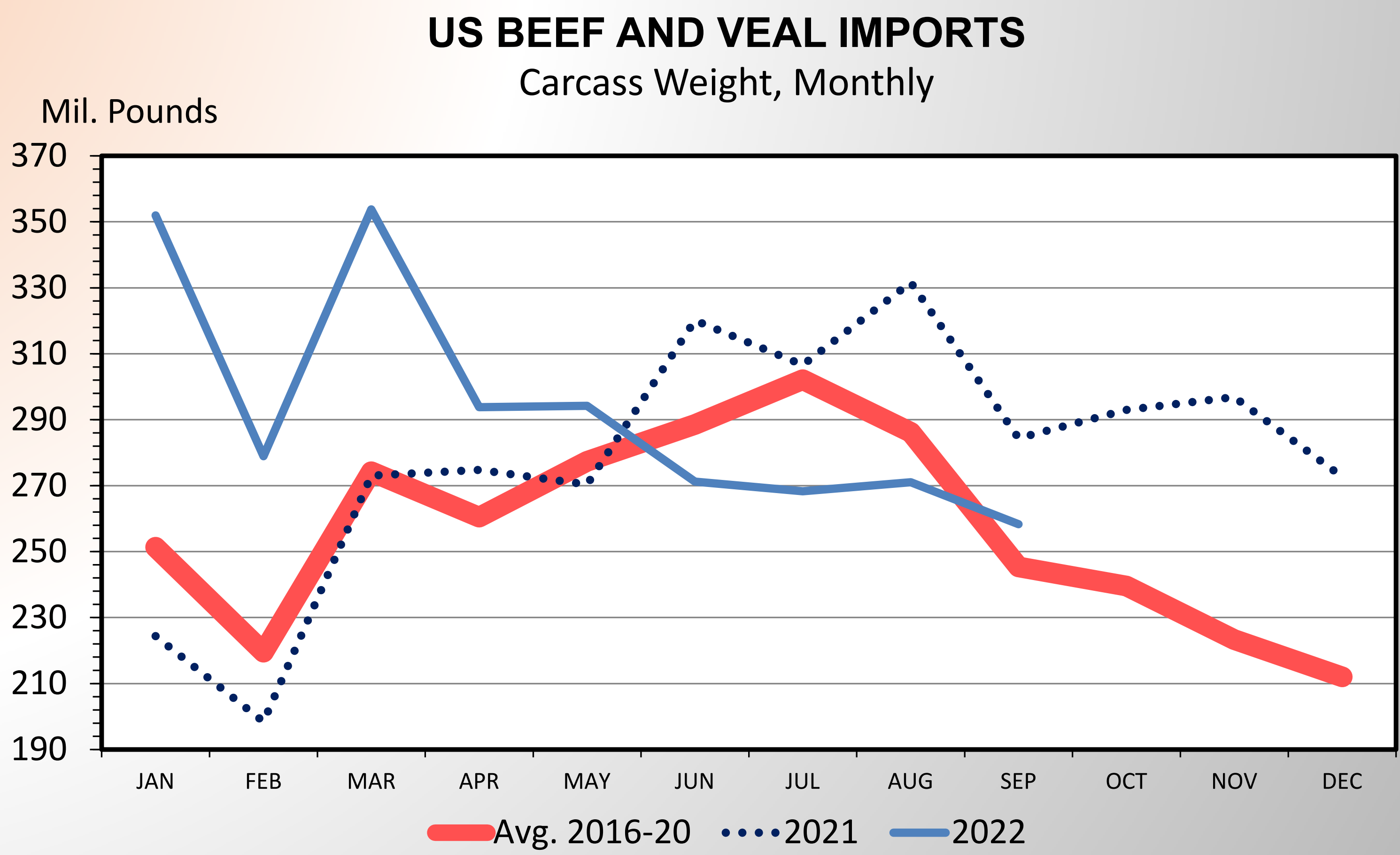

Beef Exports: January-August
Million Pounds, Carcass Weight
2550
2400
2250
2100
1950
1800
1650
1500
1350
1200
1050
900
750
600
450
300
150
0
Other
Taiwan
China/HK
Canada
Mexico
S. Korea
Japan
2016-2020
2021
2022


U.S. Beef Exports to China/Hong Kong
1,000 lbs., Monthly
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Jan-16
Apr-16
Jul-16
Oct-16
Jan-17
Apr-17
Jul-17
Oct-17
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21
Jan-22
Apr-22
Jul-22
HK
China


U.S. Beef Imports, 2021
Million Pounds, Carcass Weight
3,400
3,200
3,000
2,800
2,600
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
Uruguay
Nicaragua
Brazil
Mexico
Canada
New Zealand
Australia
2019
2020
2021



Data Source: USDA-ERS & USDA-FAS

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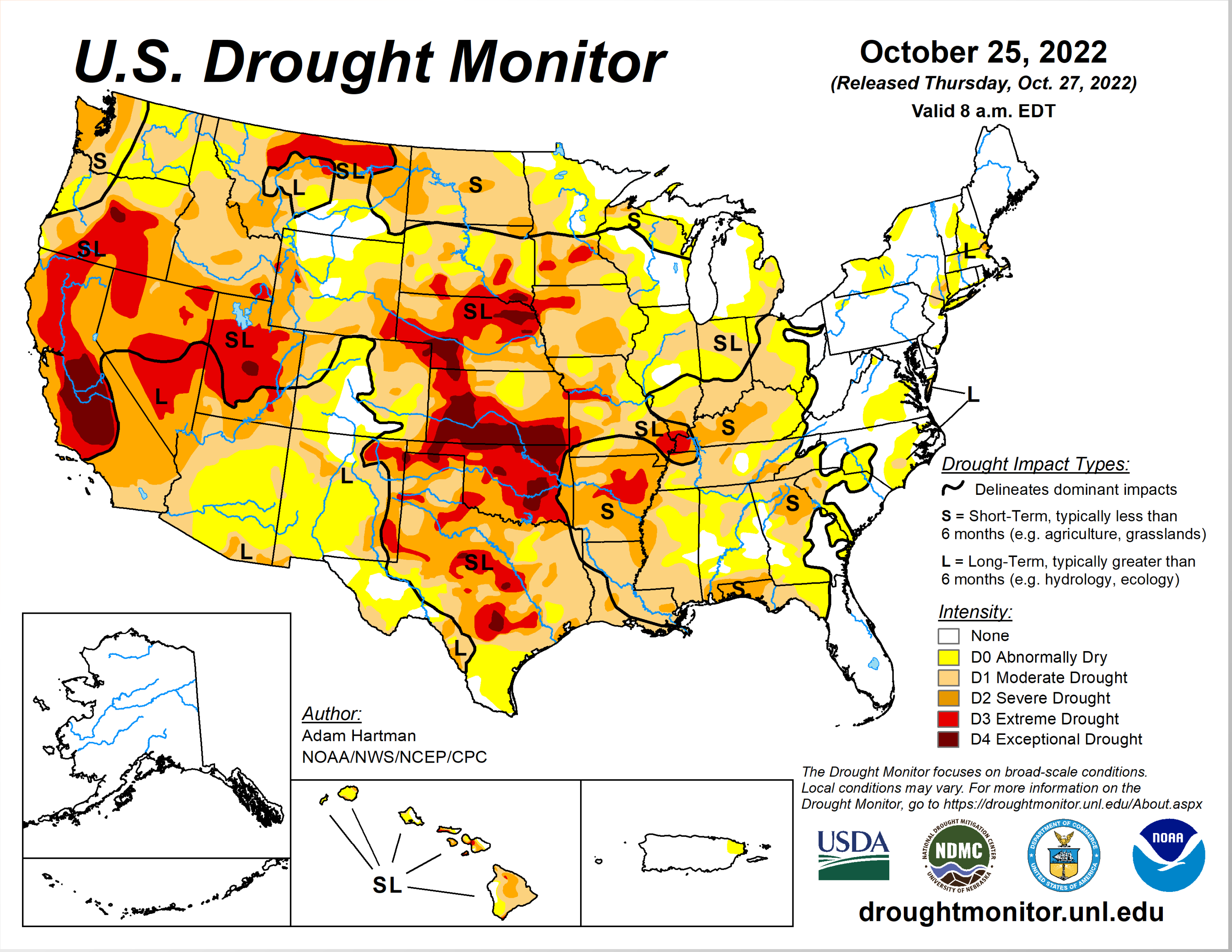
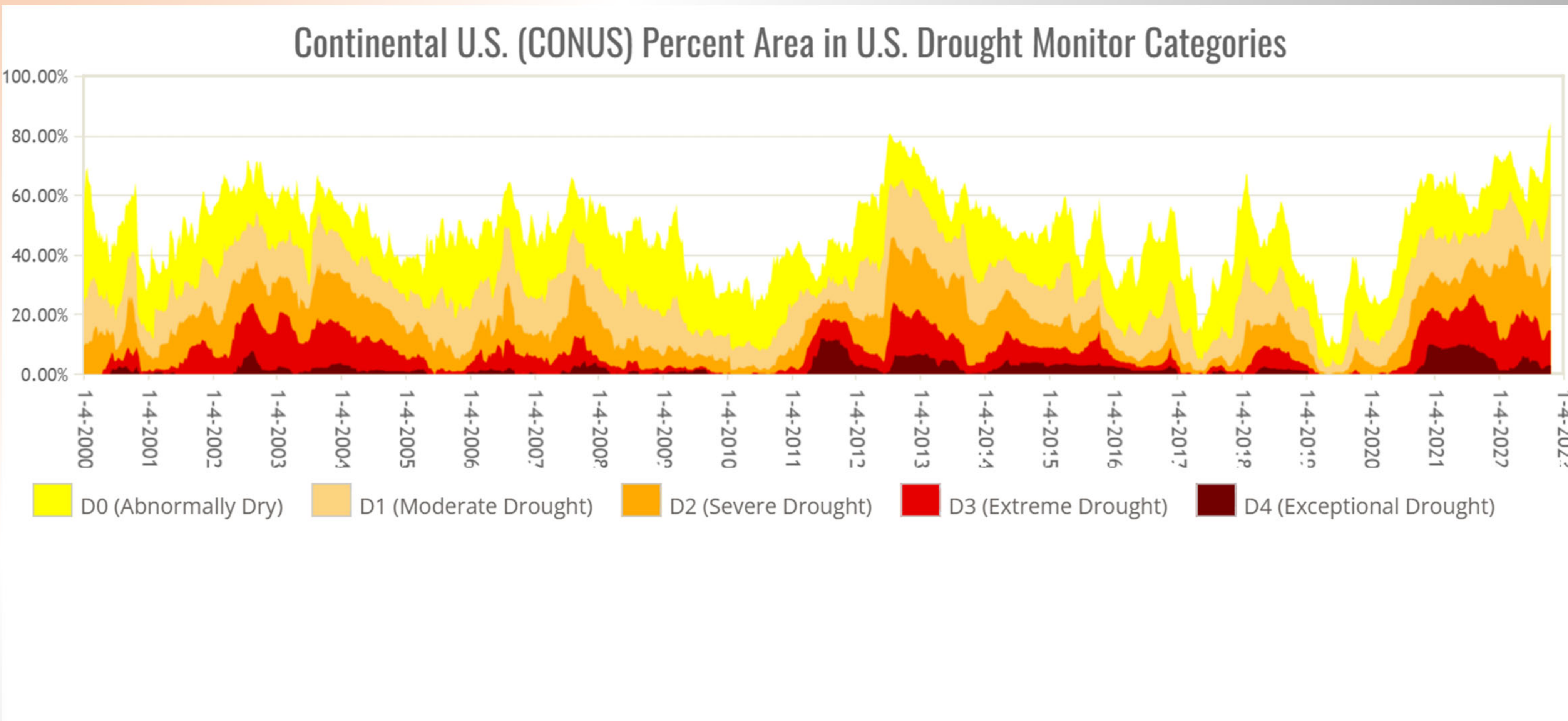
I-N-15
11/04/22


U.S. Drought Monitor
October 25, 2022
(Released Thursday, Oct. 27, 2022)
Valid 8 a.m. EDT
Drought Impact Types:
Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought
Author:
Adam Hartman
NOAA/NWS/NCEP/CPC
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx
USDA
NDMC
droughtmonitor.unl.edu



Continental U.S. (CONUS) Percent Area in U.S. Drought Monitor Categories
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
1-4-2000
1-4-2001
1-4-2003
1-4-2005
1-4-2010
1-4-2011
1-4-2013
1-4-2015
1-4-2020
1-4-2021
D0 (Abnormally Dry)
D1 (Moderate Drought)
D2 (Severe Drought)
D3 (Extreme Drought)
D4 (Exceptional Drought)

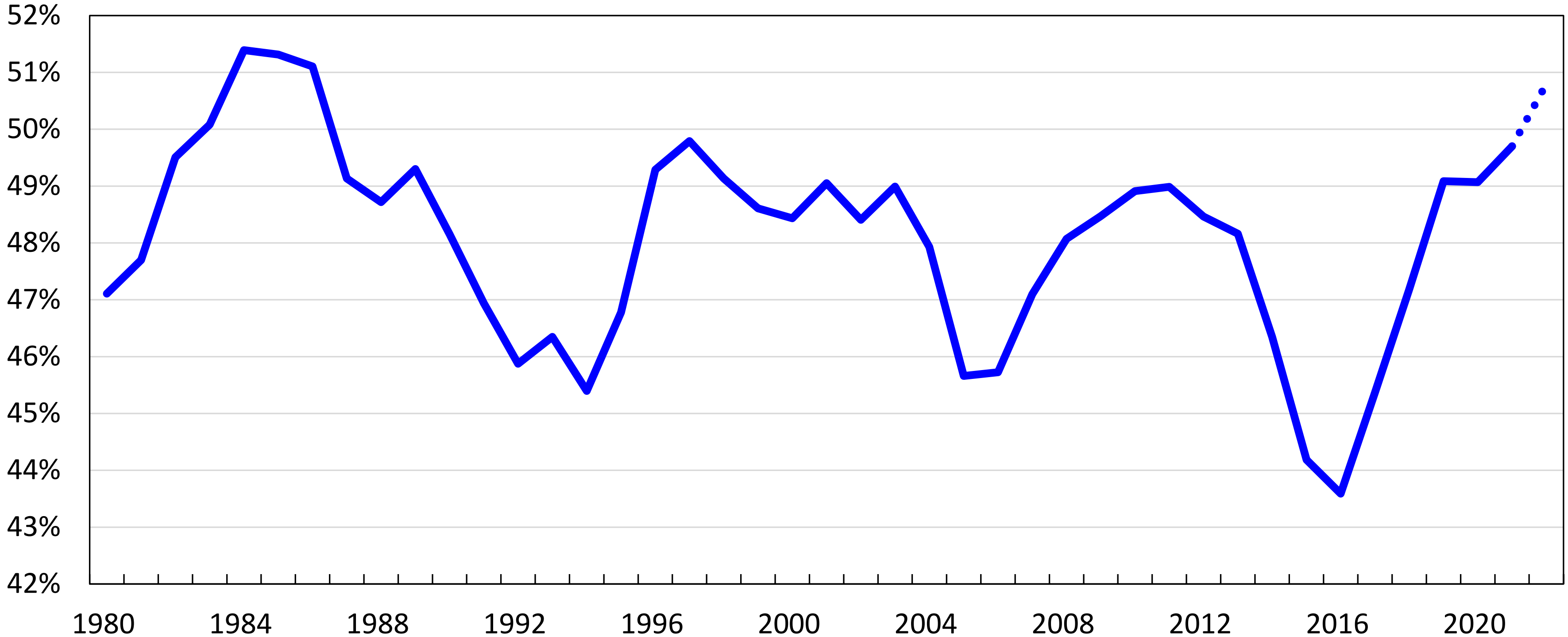
Cattle Slaughter

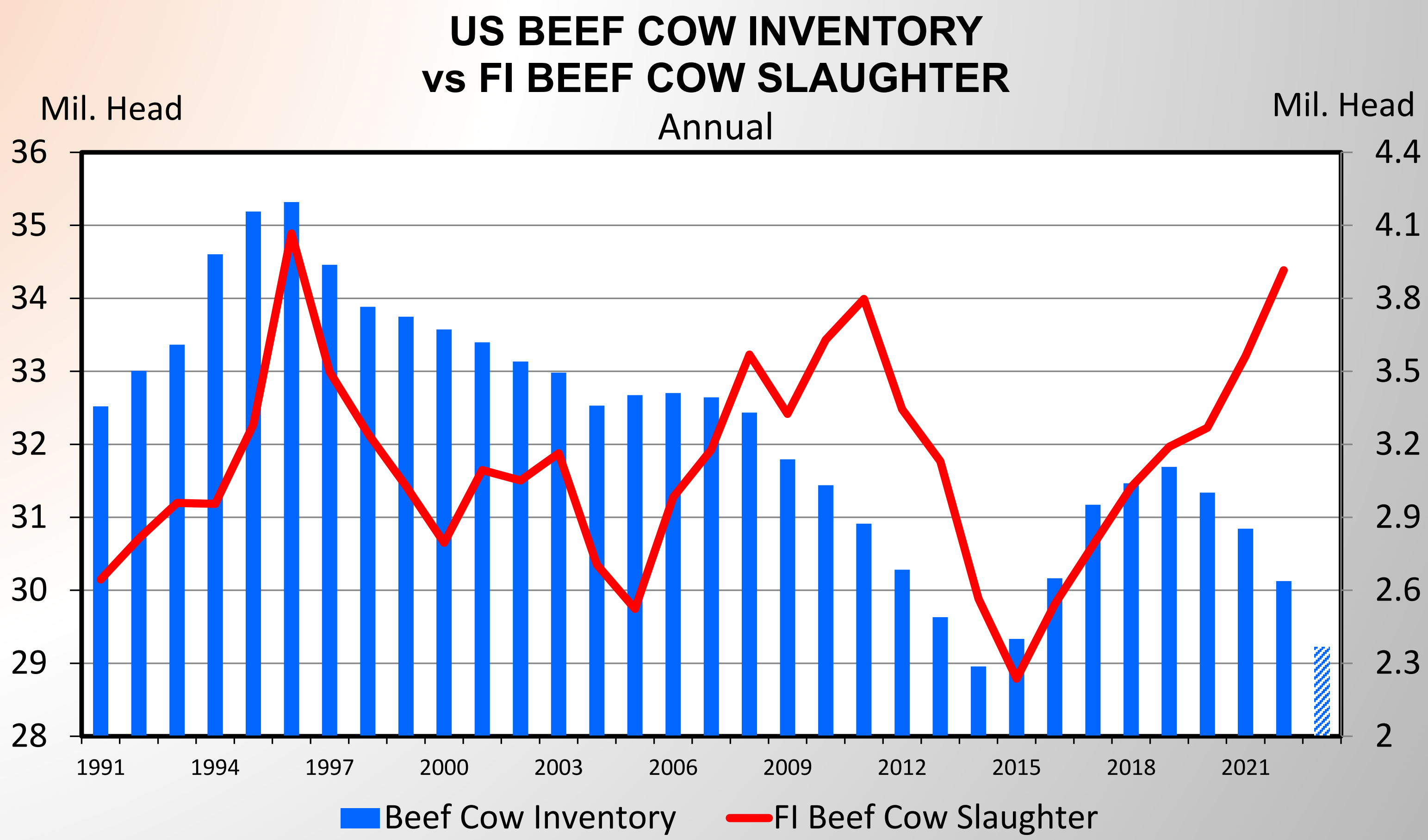
Federally Inspected, 1000 Head

	2019	2020	2021	% Change 2020-2021	YTD % Change 2021-2022
Steers	16298	15856	16145	+1.8	-1.6
Heifers	9819	9445	9827	***+4.0***	***+5.0***
S+H Total	26821	26738	27484	+2.7	+0.9
Dairy Cows	3224	3064	3106	+1.4	-2.8
Beef Cows	3190	3268	3562	***+9.0***	***+12.8***
Cows Total	6414	6331	6669	+5.3	+5.4
Bulls	539	518	544	+5.0	+4.0
Total	33069	32151	33184	+3.2	+1.6

Latest data: October 8, 2022

Female Slaughter as % of Cattle Slaughter





Data Source: USDA-NASS

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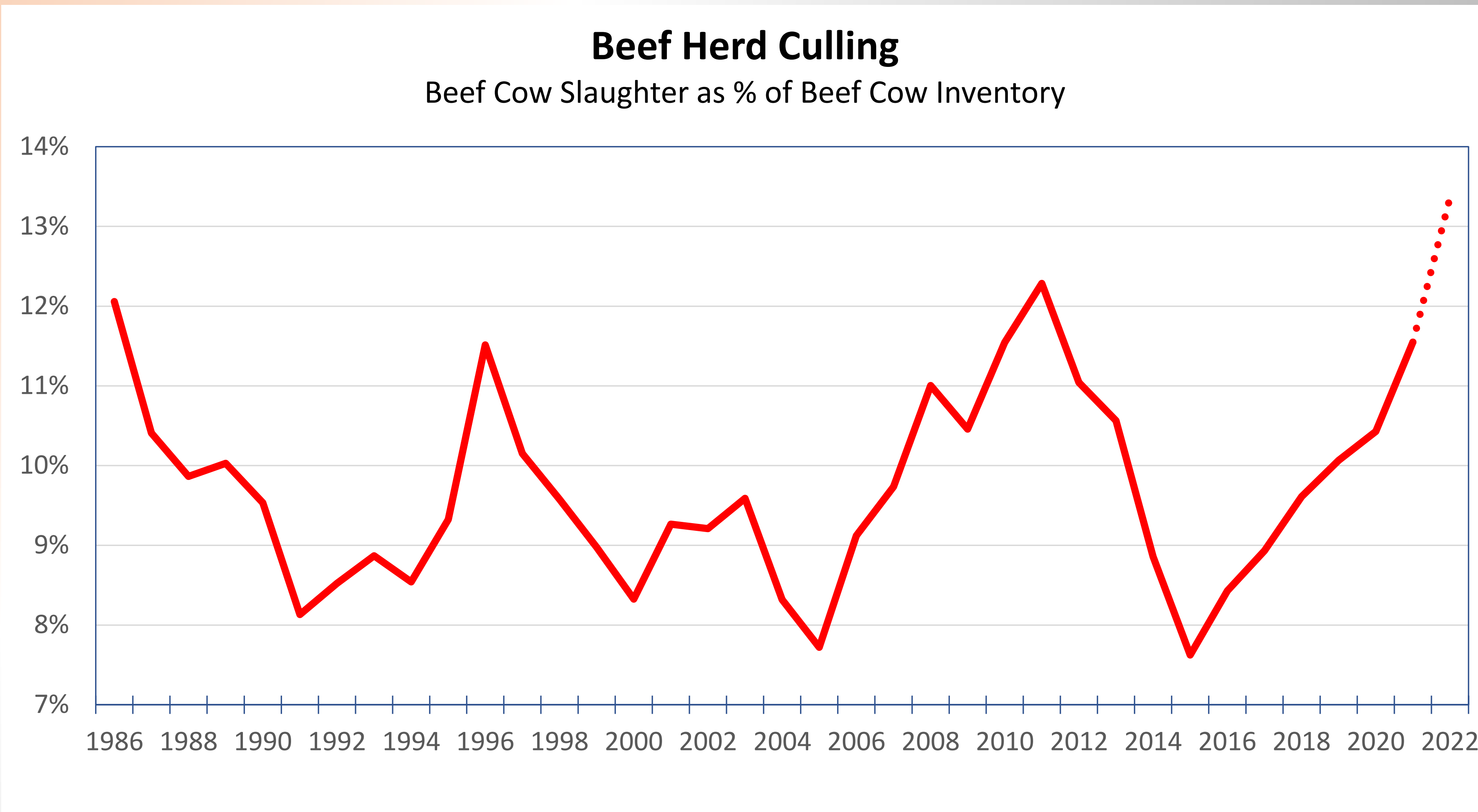
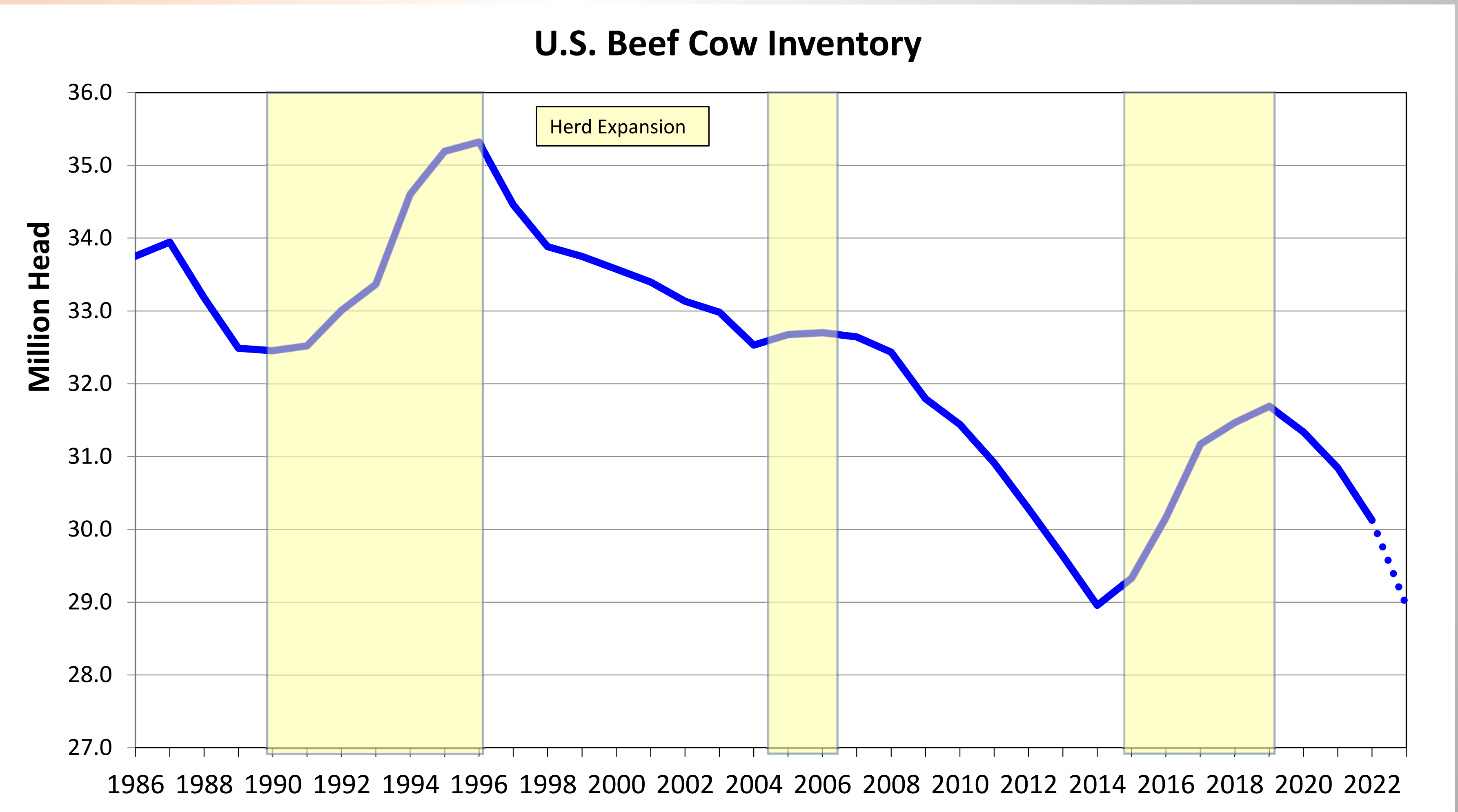
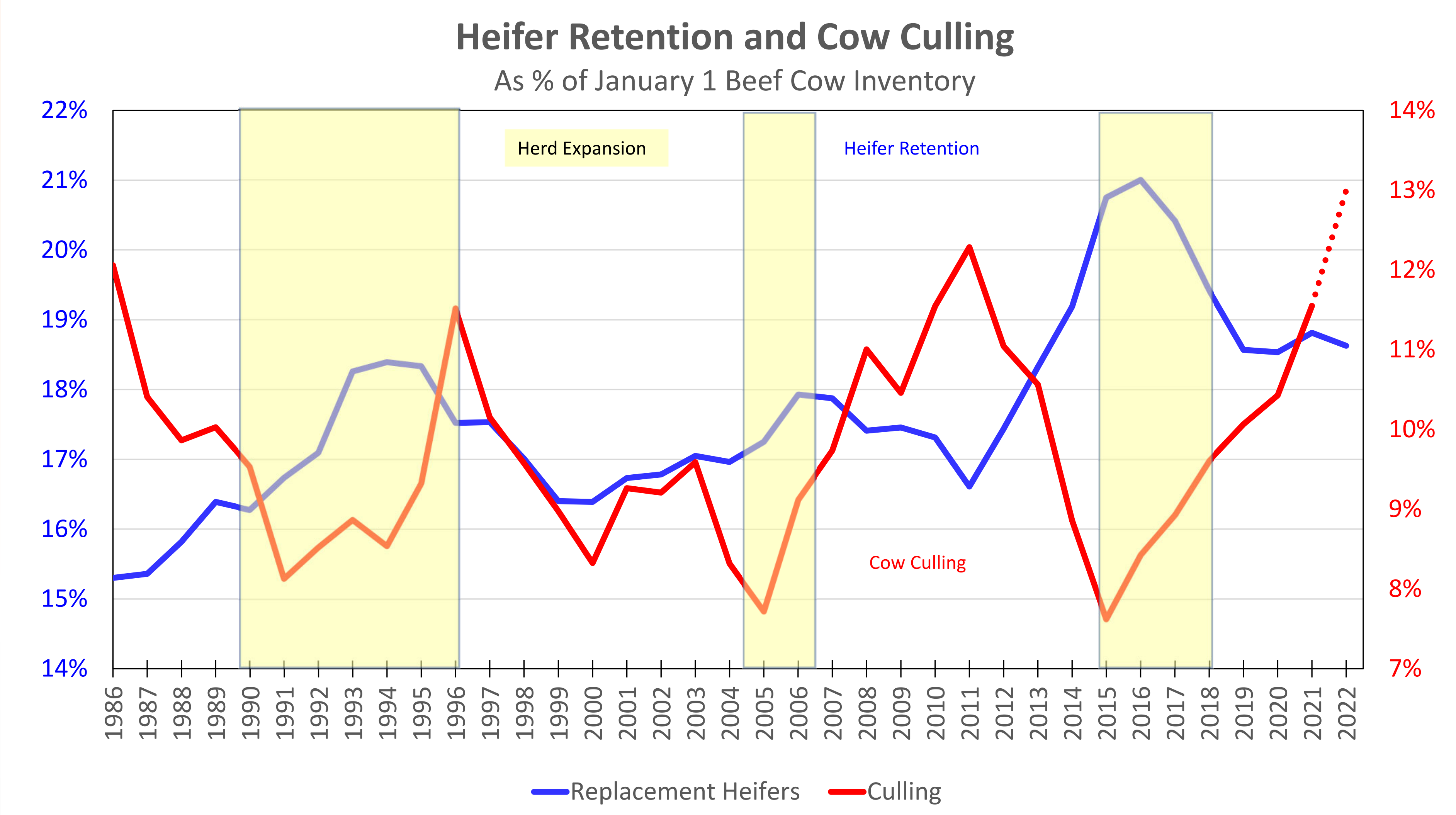
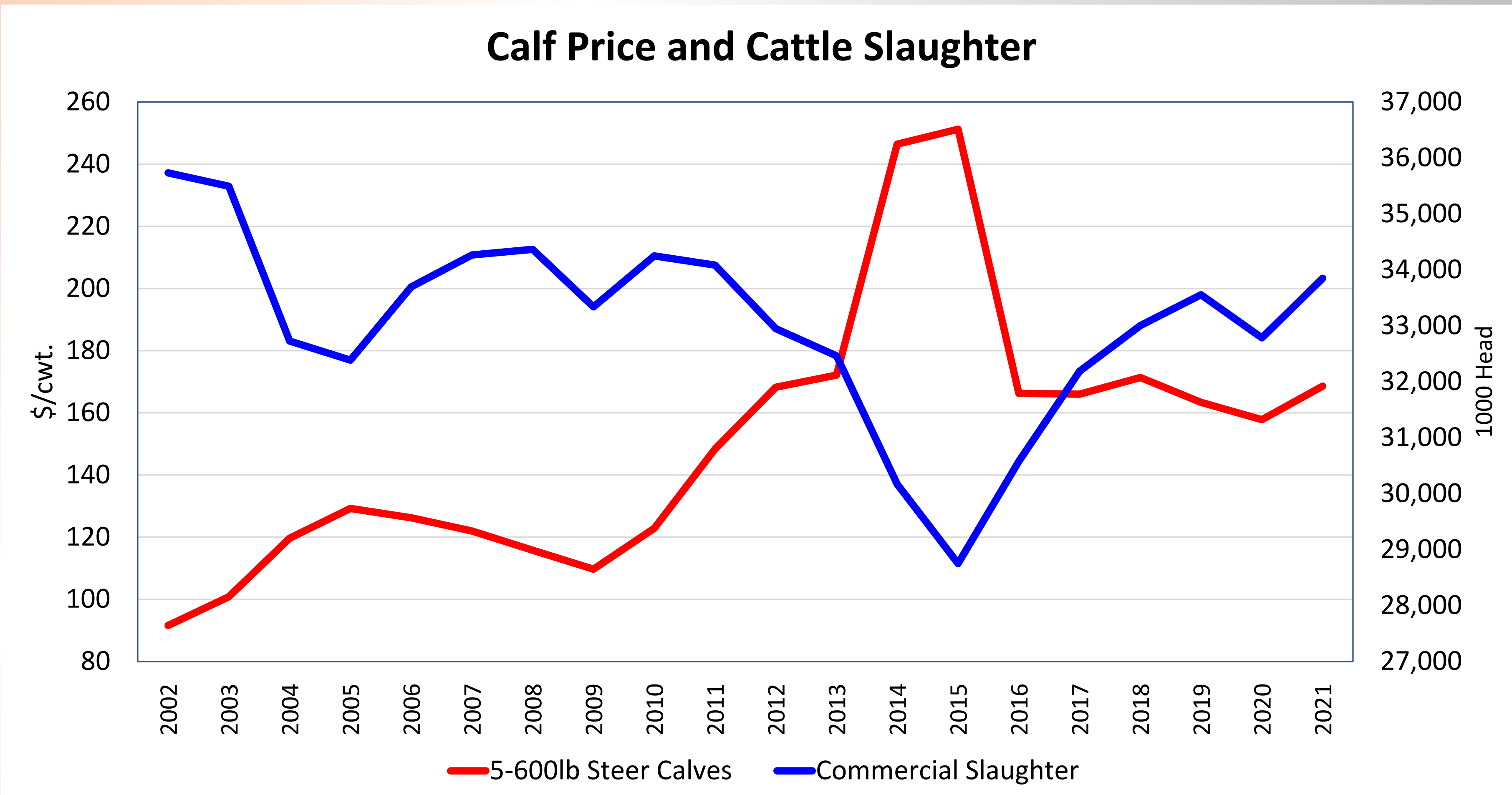
C-S-28
02/01/22

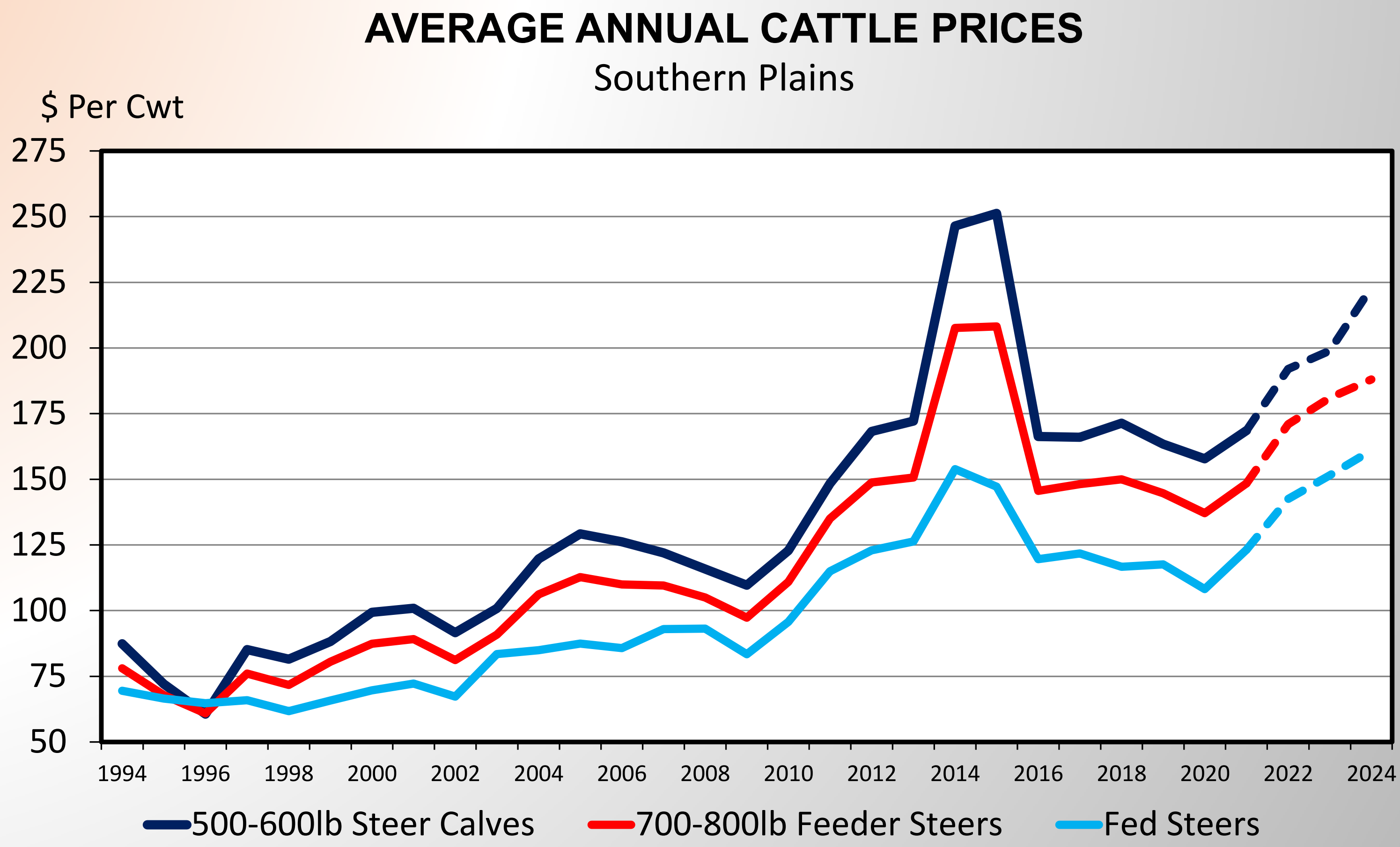

Beef Herd Culling
Beef Cow Slaughter as % of Beef Cow Inventory
14%
13%
12%
11%
10%
9%
8%
7%
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022


U.S. Beef Cow Inventory
Million Head
Herd Expansion
36.0
35.0
34.0
33.0
32.0
31.0
30.0
29.0
28.0
27.0
1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022


Heifer Retention and Cow Culling
As % of January 1 Beef Cow Inventory
22%
21%
20%
19%
18%
17%
16%
15%
14%
14%
13%
12%
11%
10%
9%
8%
7%
Herd Expansion
Heifer Retention
Cow Culling
1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
Replacement Heifers
Culling



Calf Price and Cattle Slaughter
$/cwt.
260
240
220
200
180
160
140
120
100
80
1000 Head
37,000
36,000
35,000
34,000
33,000
32,000
31,000
30,000
29,000
28,000
27,000
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
5-600lb Steer Calves
Commercial Slaughter



Data Source: USDA-AMS, Compiled and Forecasts by LMIC

C-P-06
08/24/22

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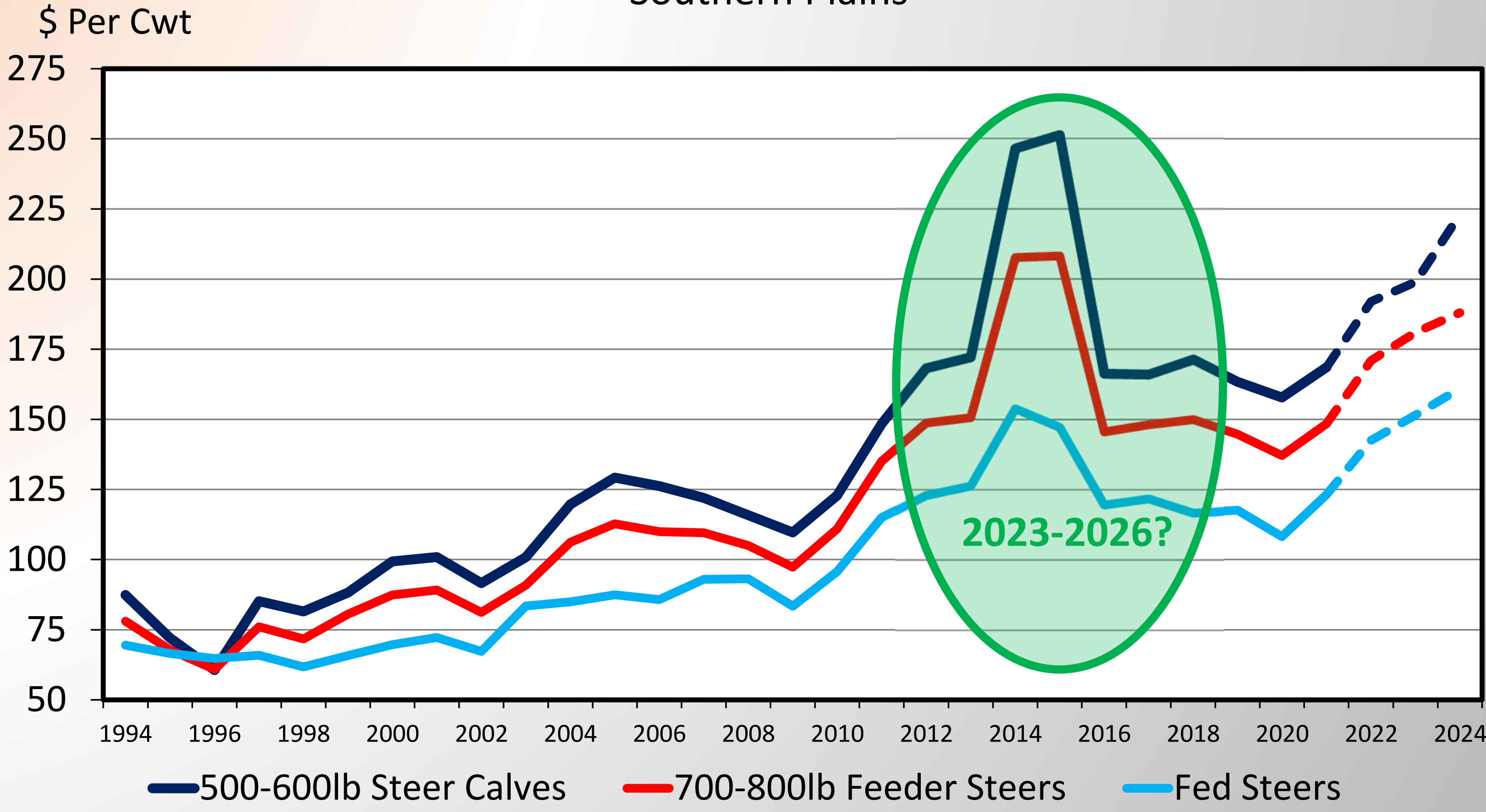
AVERAGE ANNUAL CATTLE PRICES

Southern Plains



Data Source: USDA-AMS, Compiled and Forecasts by LMIC

C-P-06
08/24/22

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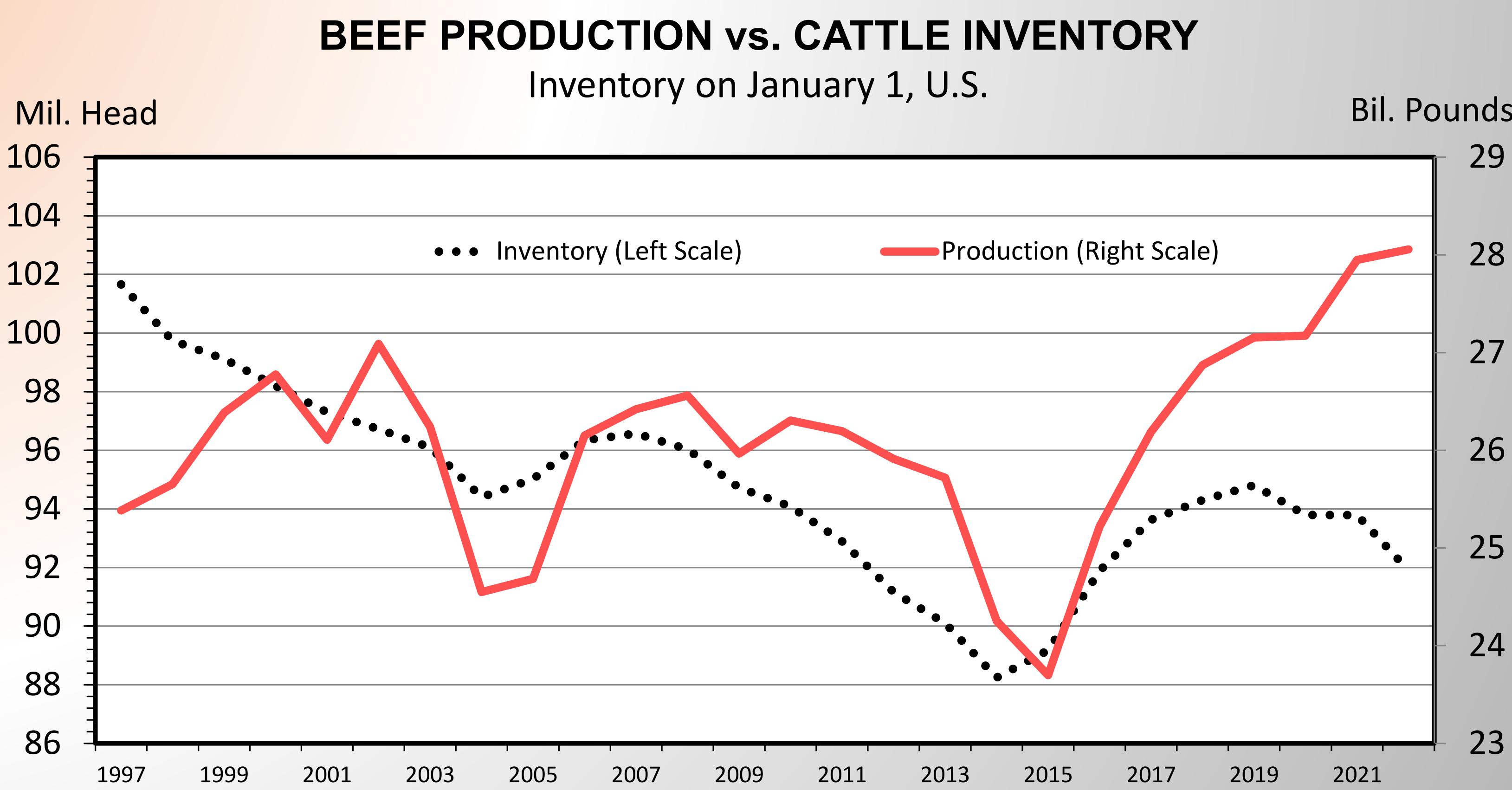

Data Source: USDA-NASS, Compiled & Forecasts by LMIC

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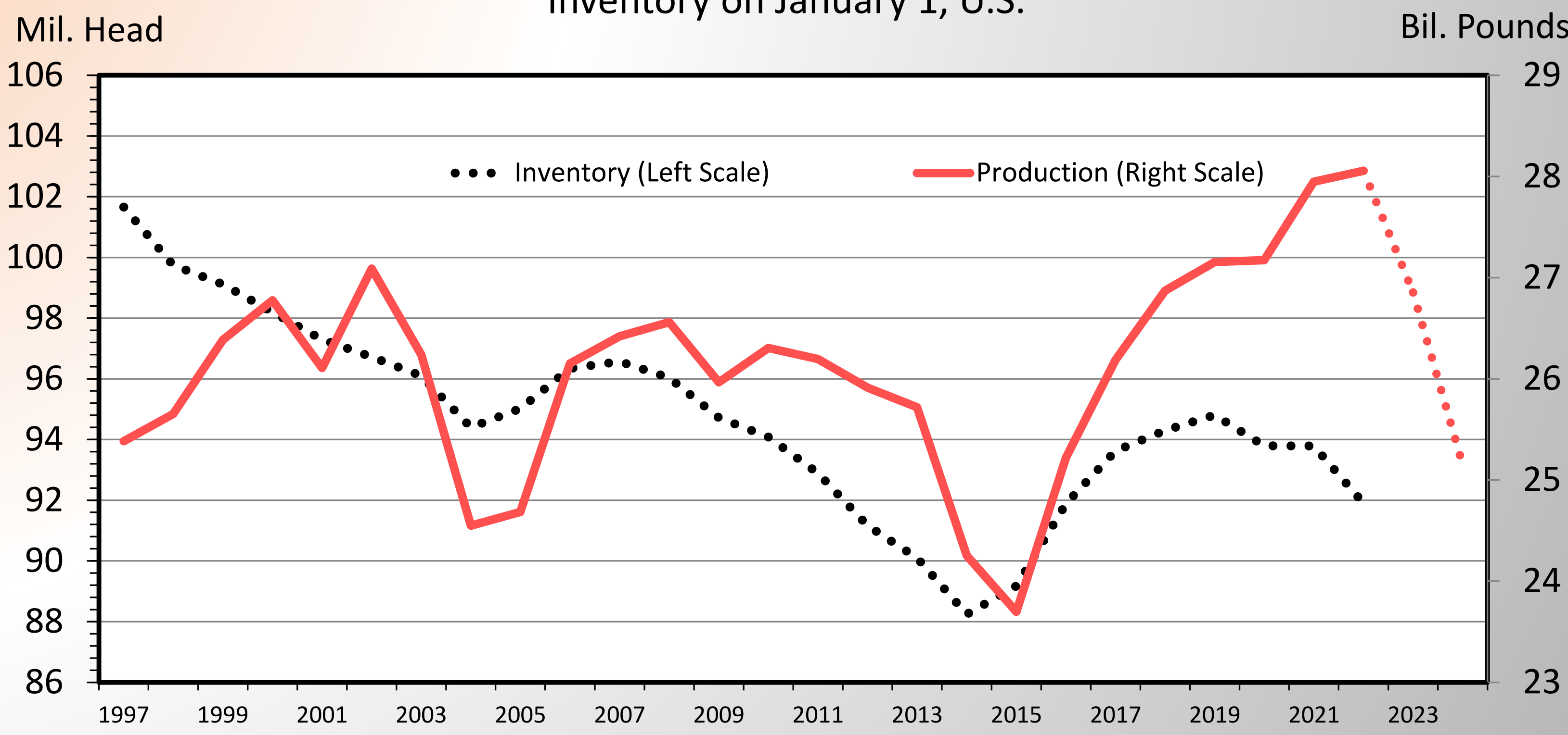
BEEF PRODUCTION vs. CATTLE INVENTORY

Inventory on January 1, U.S.



Data Source: USDA-NASS, Compiled & Forecasts by LMIC

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Beef Industry Looking to the Future

- Current decisions determined by drought and feed costs.
- Incredible current domestic demand with record-large supplies.
- Strong potential long-term global market potential.
- But domestic and global economic uncertainties.
- Industry infrastructure needs versus possibilities.
- Differences between long-term vision and short-term feasibility.

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