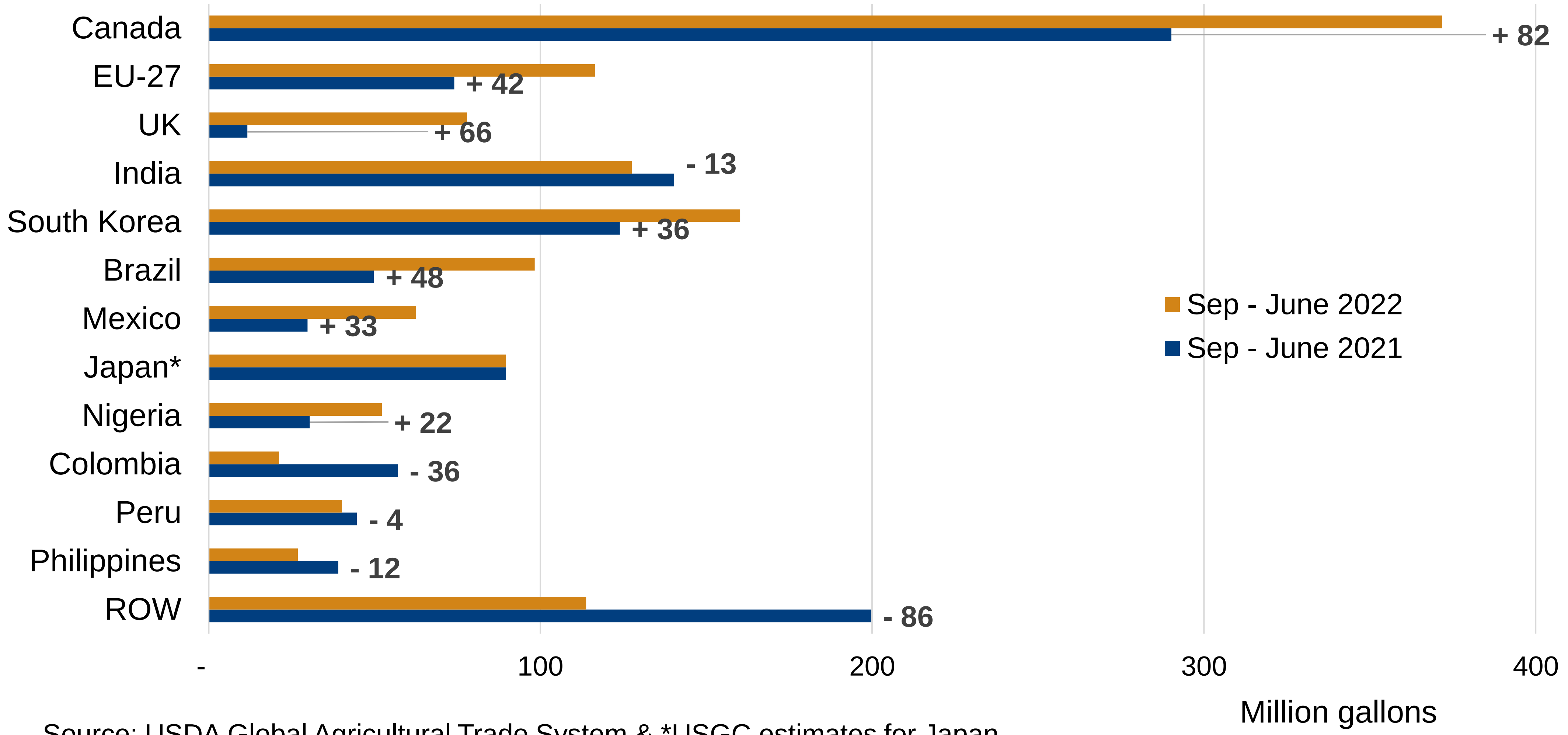
Expanding Ethanol and DDGS Use Around the World

August 12, 2022

U.S. GRAINS COUNCIL

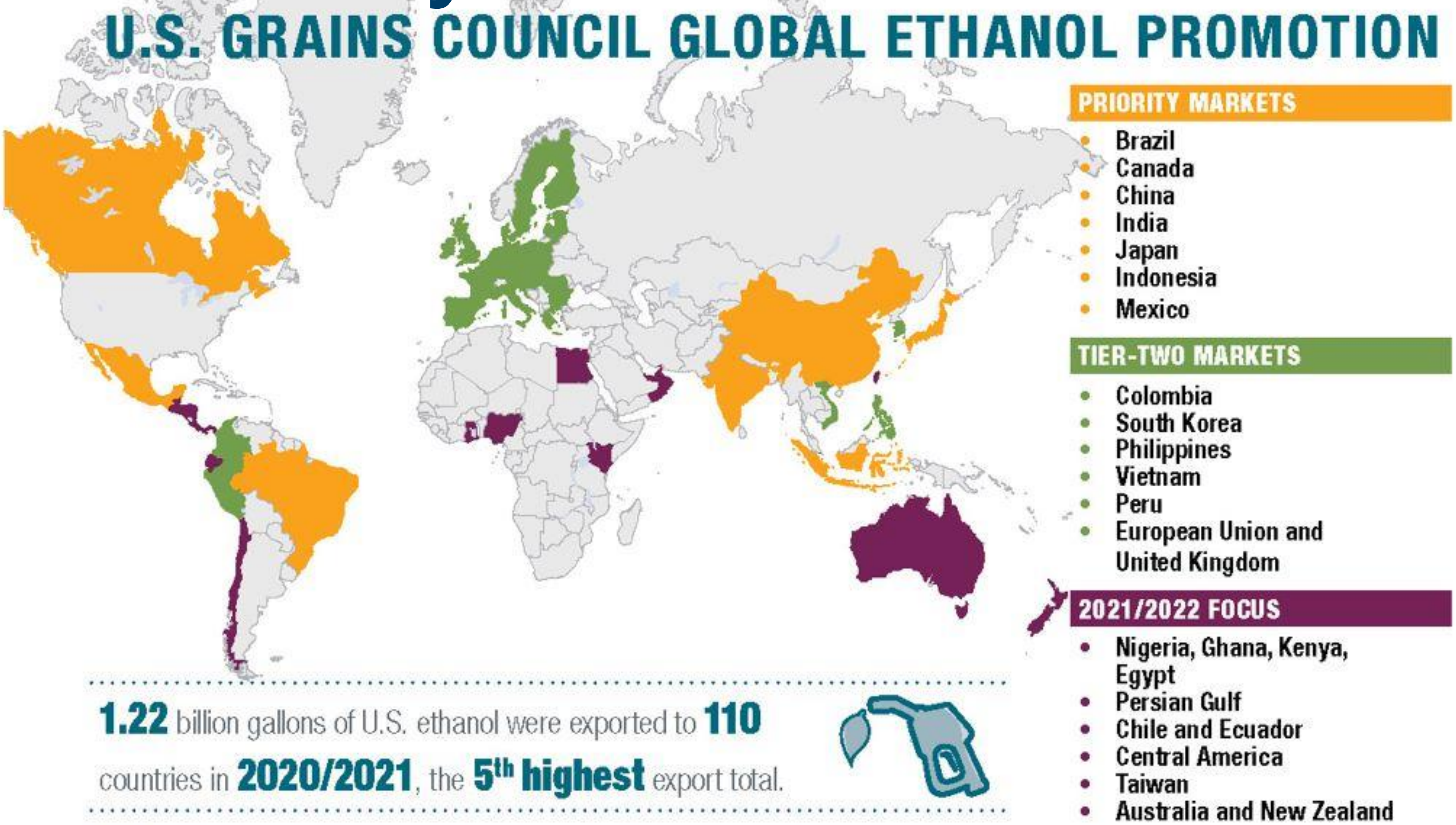
A global network of professionals building worldwide demand and developing markets for U.S. grains and ethanol.

Exports of U.S. ethanol have risen to over 1.2 Bgal in the first 10 months of this marketing year, on track to hit 1.5 Bgal this crop year.



Source: USDA Global Agricultural Trade System & *USGC estimates for Japan

USGC Priority Markets



Canada – consistent partner, poised for policy driven growth

- Final Clean Fuel Regulation (CFR) has been released
- Currently at E5 nationwide
- Anticipated shift to E15 by 2030
- Progressive provincial policies will continue to be primary demand driver

Japan – recent highlights are a success for the region

Next biofuel policy to be implemented in April 2023

- Incremental increase of 66% cap under the biofuel policy
  - E3 (360 mil gal) as a stepping-stone for E10?
    - Legally permitted
    - Gasoline standard exists
    - Limited infrastructure modification
    - Vehicles are compatible
- Higher U.S. market share by recent and future carbon emission reduction
- May 2022 U.S.-Japan Summit Joint Statement on doubling Japan’s demand by 2030

EU exports up nearly 60% YOY
UK up almost 600%

EU – 4th largest export market at 116 million gallons

- Russia's war on Ukraine affecting attitudes toward energy security
- Food & fuel debate rising, concerns with countries pledging crop-based fuel caps

UK – 6th largest export market at 77 million gallons

- Current blend rate estimated at 8%
- September 2021 E10 rollout, implementation to continue into 2023 to Northern Ireland paving way to Ireland expansion

India – increased blend level goals. Future targets cannot be met without imports

- 3rd largest export market totaling 127 million gallons through June ‘22 – all industrial
- Nationwide E10 blend reached in January 2022 – Can they sustain it?
- E20 goal by April 2025
- U.S. India Trade Policy Forum to include ethanol and DDGS
  - Biofuel Partnership Forum expected summer 2022

Southeast Asia – setting the stage for future US ethanol implementation

Ministry of Finance in **Vietnam** issued July emergency decree to combat inflationary pressure

- Lowering ethanol tariff from 15% to 12%
- USGC seeking 5% tariff to be on par with other imports

USGC estimates the U.S. could supply **Indonesia** upwards of 250 million gallons of ethanol in a scenario where E5 is allowed discretionarily through national fuel spec allowances.

- Barriers remain with 30% ethanol tariff
- E3 blend level only allowed in gasoline imports

Philippines has nationwide E10 policy

- 9th largest U.S. ethanol importer in MY20/21, imports make up 50% of supply
- Regulators developing new national fuel standards for E15 & E20; contingent on vehicle compatibility test

Challenging Markets

Preferential Pemex treatment from **Mexican** authorities by delaying or canceling permits from US energy companies

- June 2021 revision back to 5.8 percent ethanol hinders viability of a 10 percent blend rate allowance in the market
- USGC focusing on regulatory and legal avenues during 5 year regulatory review process

Current **China** political situation leaves little avenue for near term opportunities

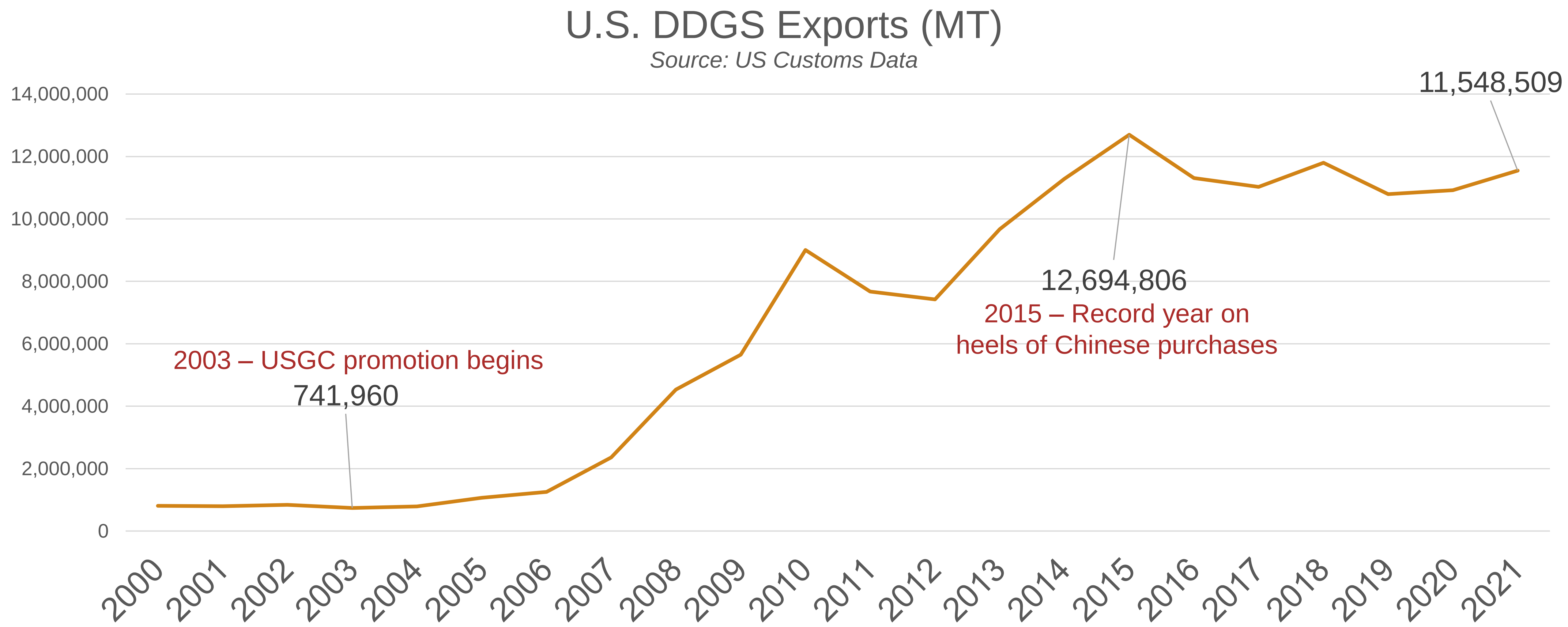
Colombia Countervailing duty case is ongoing

- USGC remains coordinated with industry partners and is actively involved in legal proceedings
- Duties remain at current levels during the review process

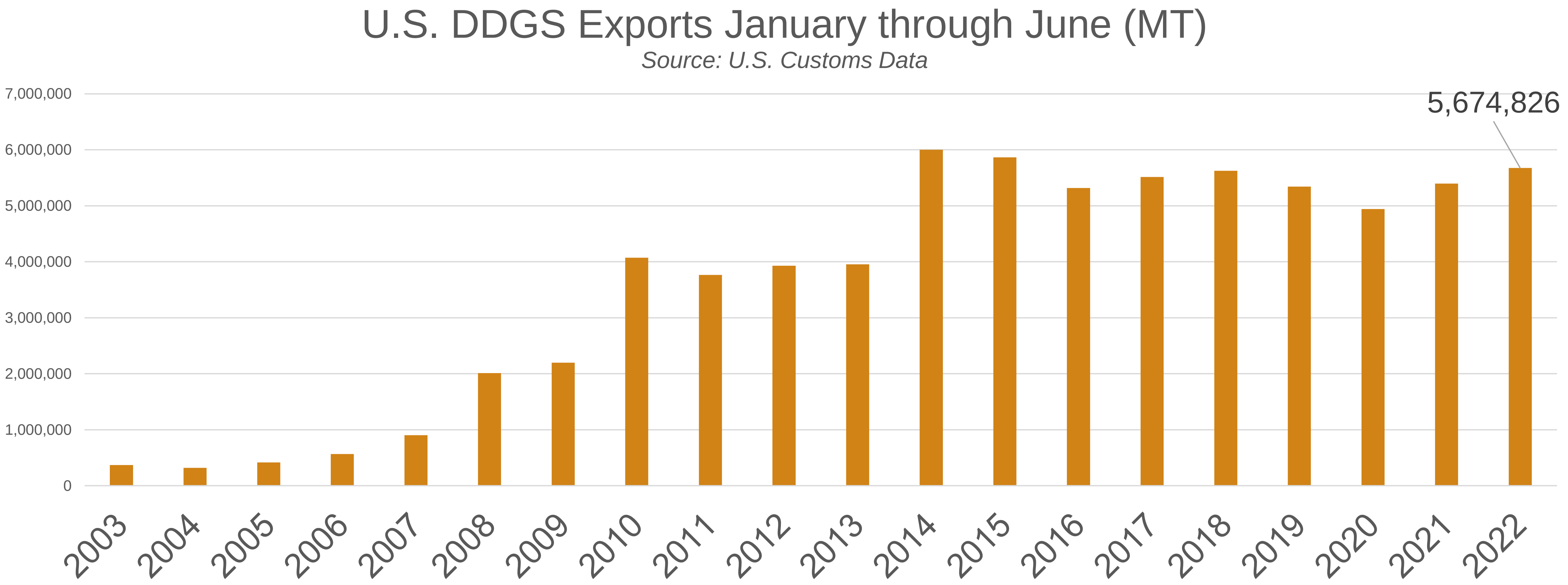
Brazil 20% TRQ tariff temporarily removed

•Industry priority for complete removal of tariff

Annual DDGS Exports Third Largest in 2021



2022 DDGS Exports on Pace for Third Largest Year in History



Where Are Our Markets?

TOTAL UP 5% Y/Y

MARKETS OF NOTE

- Mexico
  - Record last year, on pace to break it this year
- South Korea
  - Up 18%, looking to set a record year
- Turkey
  - Down 47% due to currency devaluation (-108% y/y)
- Canada
  - Up 126% due to drought in Canada
- Spain
  - Up 64% due to Ukraine conflict

Partner	2018	2019	2020	2021	JAN-JUN 2021	JAN-JUN 2022	CHANGE YTD (%)	CHANGE YTD (MT)
World Total	11,799,279	10,792,412	10,922,732	11,548,509	5,397,083	5,674,826	5%	277,743
Mexico	2,012,746	2,022,752	1,732,282	2,382,780	1,127,703	1,096,953	-3%	-30,750
Vietnam	1,246,899	1,202,103	1,282,022	1,404,888	605,514	643,821	6%	38,307
Korea, South	1,139,457	1,242,410	1,260,030	1,136,337	562,256	662,432	18%	100,176
Indonesia	843,582	913,488	933,401	861,909	428,669	469,639	10%	40,970
Turkey	887,129	577,364	790,455	832,168	389,176	208,120	-47%	-181,056
Canada	664,483	643,994	397,588	771,896	251,107	568,343	126%	317,236
China	192,174	174,338	270,261	453,295	128,051	102,078	-20%	-25,973
Japan	465,962	516,881	463,118	424,205	227,990	255,517	12%	27,527
Ireland	396,265	277,440	291,278	369,706	167,845	243,238	45%	75,393
Thailand	1,016,581	574,380	848,838	355,494	196,801	94,009	-52%	-102,792
New Zealand(*)	250,081	208,571	278,870	249,577	106,402	79,517	-25%	-26,885
Colombia	220,222	200,615	209,961	238,754	138,724	165,643	19%	26,919
Taiwan	220,547	242,521	241,542	226,150	108,927	115,925	6%	6,998
Morocco	190,682	223,352	188,929	212,742	126,685	136,871	8%	10,186
Israel(*)	276,156	212,153	196,975	207,053	123,771	102,489	-17%	-21,282
Philippines	196,418	261,977	280,372	184,981	81,160	62,588	-23%	-18,572
Egypt	193,254	142,141	182,399	181,257	80,185	51,214	-36%	-28,971
Spain	213,717	103,369	64,670	158,036	68,196	112,136	64%	43,940
Bangladesh	150,788	160,873	164,517	139,351	96,384	70,367	-27%	-26,017
United Kingdom	323,780	180,625	121,609	125,528	82,227	54,300	-34%	-27,927
Costa Rica	77,142	92,651	83,807	84,749	39,500	40,228	2%	728
Guatemala	66,435	73,214	73,335	80,060	41,018	43,975	7%	2,957
Honduras	53,526	62,508	75,218	68,640	31,409	43,335	38%	11,926
El Salvador	70,290	78,451	56,006	58,099	30,766	40,669	32%	9,903
Malaysia	64,862	66,809	50,122	50,747	22,623	30,517	35%	7,894
Ecuador	36,200	50,595	55,625	49,762	25,035	38,982	56%	13,947
Cambodia	52,498	50,064	42,923	40,515	13,137	15,431	17%	2,294
Panama	19,154	19,736	15,993	30,155	12,339	12,461	1%	122

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Incoming Soy Crush

New Plants / Expansions	Bushels / Day	Start Date	Port
Shell Rock, IA	110,000	Dec-22	GULF
ADM/Marathon, Spiritwood, ND	150,000	Fall 2023	PNW
Epitome Energy, Crookston, MN	120,000	Late 2023	PNW
AGP, Sergant Bluff, IA	50,000	Late 2023	PNW
AGP, David City, NE	150,000	Mid 2025	PNW
Marquis Energy, Hennepin, IL	115,000	Late 2024	GULF
Norfolk Crush, Norfolk, NE	115,000	Late 2024	PNW
TOTAL	1,380,000	(37,500 MT/Day)	

24% increase in capacity

12-15 MMT increase in SBM production

Source: American Soybean Association

Thank You!