

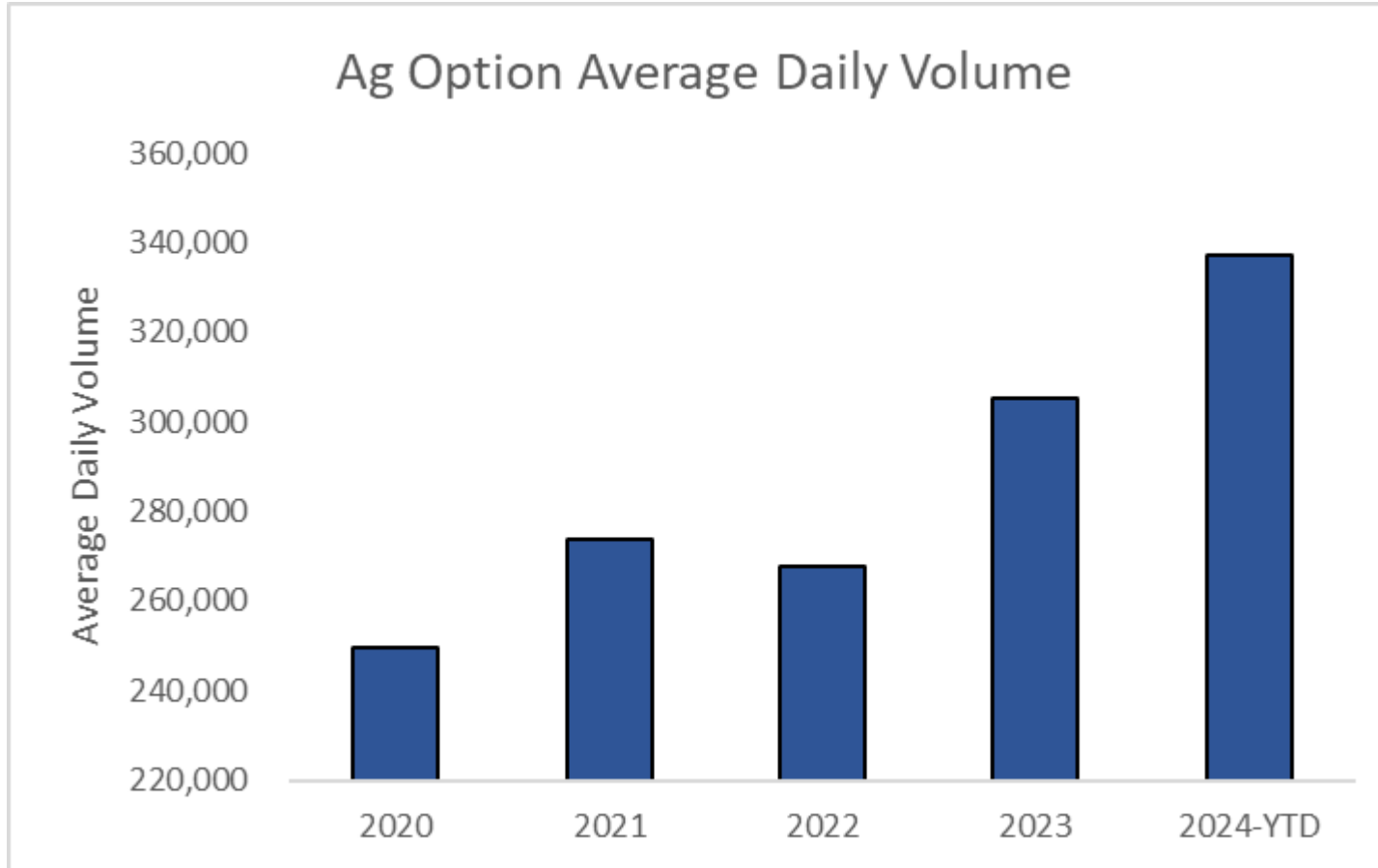
# Options Growth in Agricultural Markets

**Derek Sammann**

*Senior Managing Director*

*Global Head of Commodities, Options & International Markets*

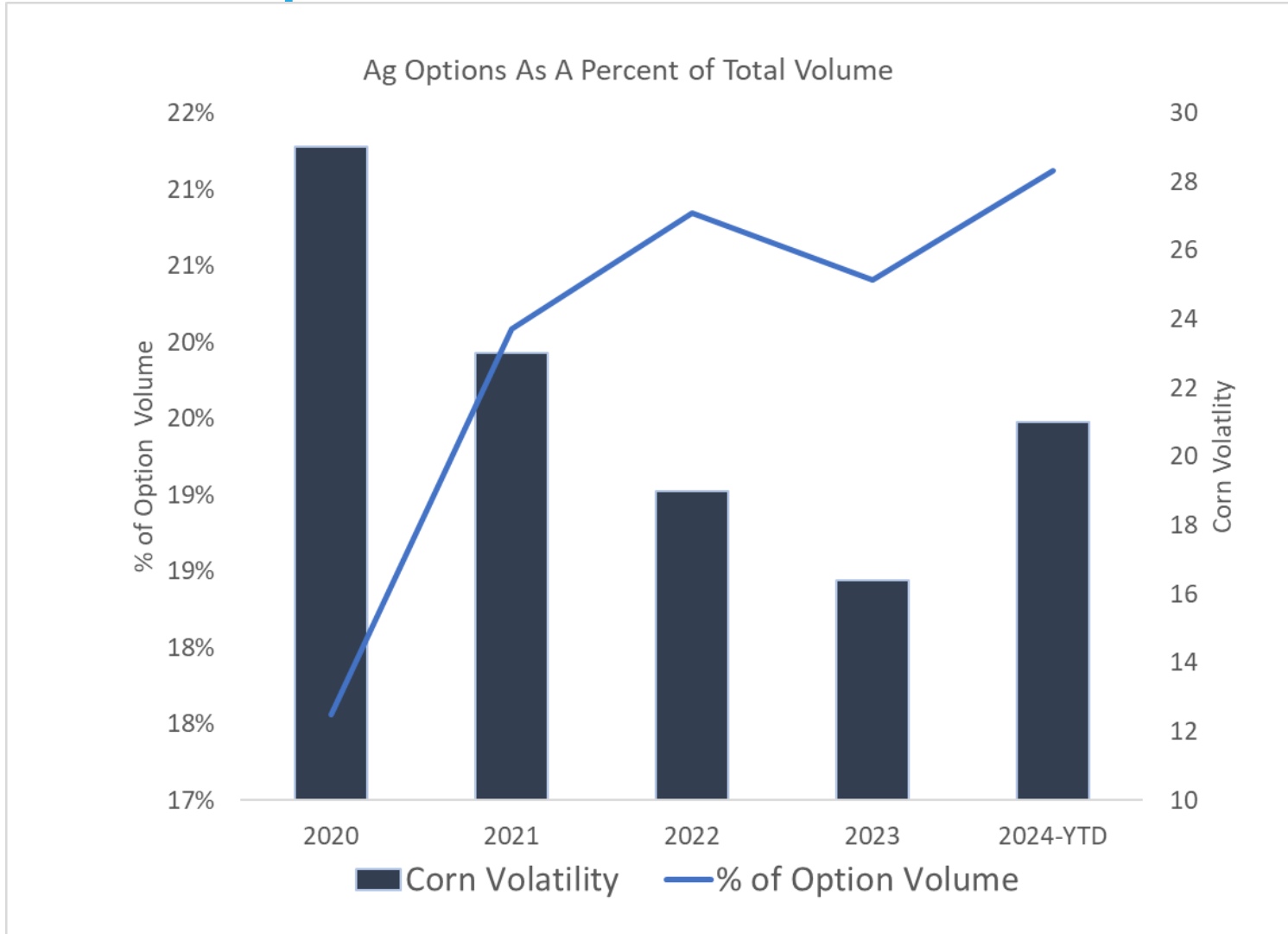
# Accelerating Use Of Options In Agriculture Markets



## The Use Of Options in Agricultural Markets Has Been a Multi-Year Trend as More Market Participants Add These Flexible Instruments to their Risk Management Toolkit

- Q1 2024 set a new average daily volume record of 337,024
- Ag Options Volume has grown an average of 8% since 2020
- Non-US Ag Options led by EMEA has grown even more, with a CAGR of 23%
- We've seen strong growth across both Grains & Oilseeds as well as Livestock
- All client segments have increased their use of Ag Options leading to a healthy ecosystem of market participants
- Commercial customer Options volume has grown 76% over the last 10 years compared to overall growth of 45%

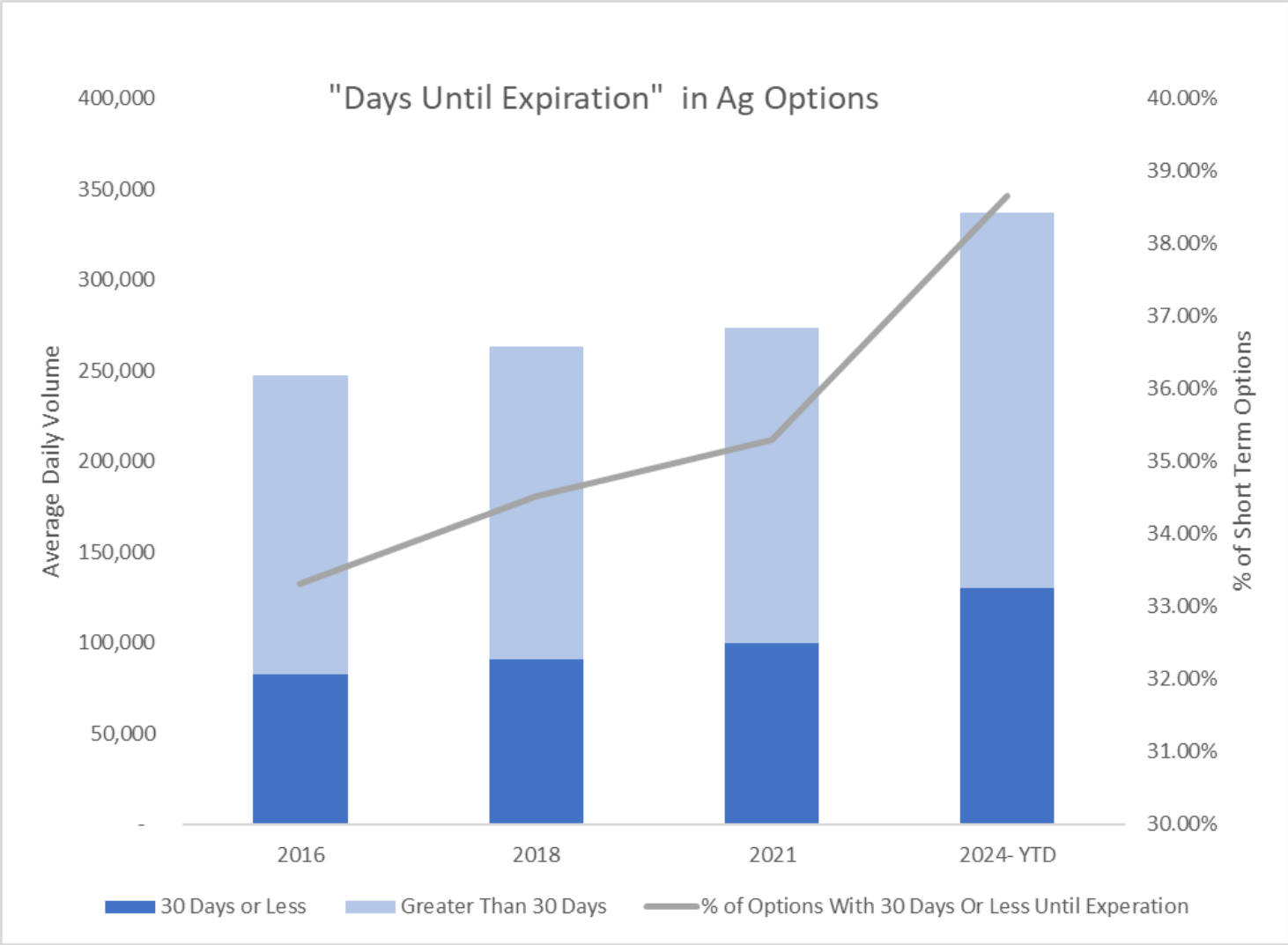
# Options Provide Risk Management Benefits Across Different Volatility Landscapes



**Options are becoming an increasingly important tool for customers to manage some of the unpredictability of global Ag markets**

- *As overall Ag market volume has grown since pre-Covid, Options have seen faster growth*
- *Options have proven to be an indispensable tool for customers to manage through the extreme volatility of both Covid and the Ukraine war*
- *Even with Volatility having trended lower over the last year, Options usage continues to grow*
- *Options are robust risk management tools which are beneficial in both increasing and decreasing volatility environments*

# Short Dated Options Increasingly Help Customers Manage Discrete Risk Events

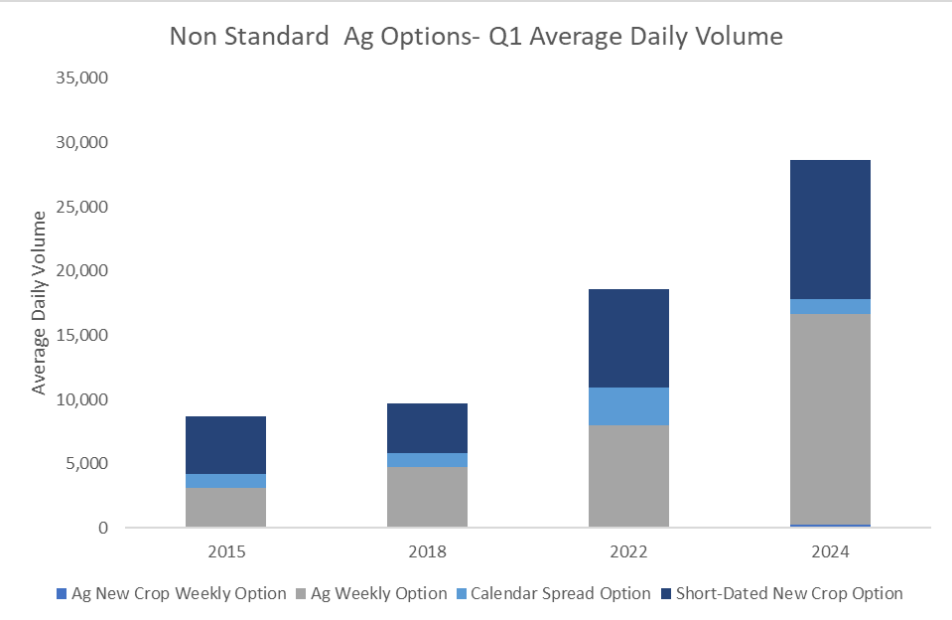


## Ag Market Participants Are Increasing their Options Use to Manage Risk

- WASDE, USDA Releases, Acreage reports
- Short Term Weather Patterns
- Geopolitical Risk
- Overlay Hedging
- Headline Exposure
- New Crop/Old Crop Fluctuations
- Scale Selling For Marketing Plan

# Option Product Suite Fits Commercial Hedging Needs

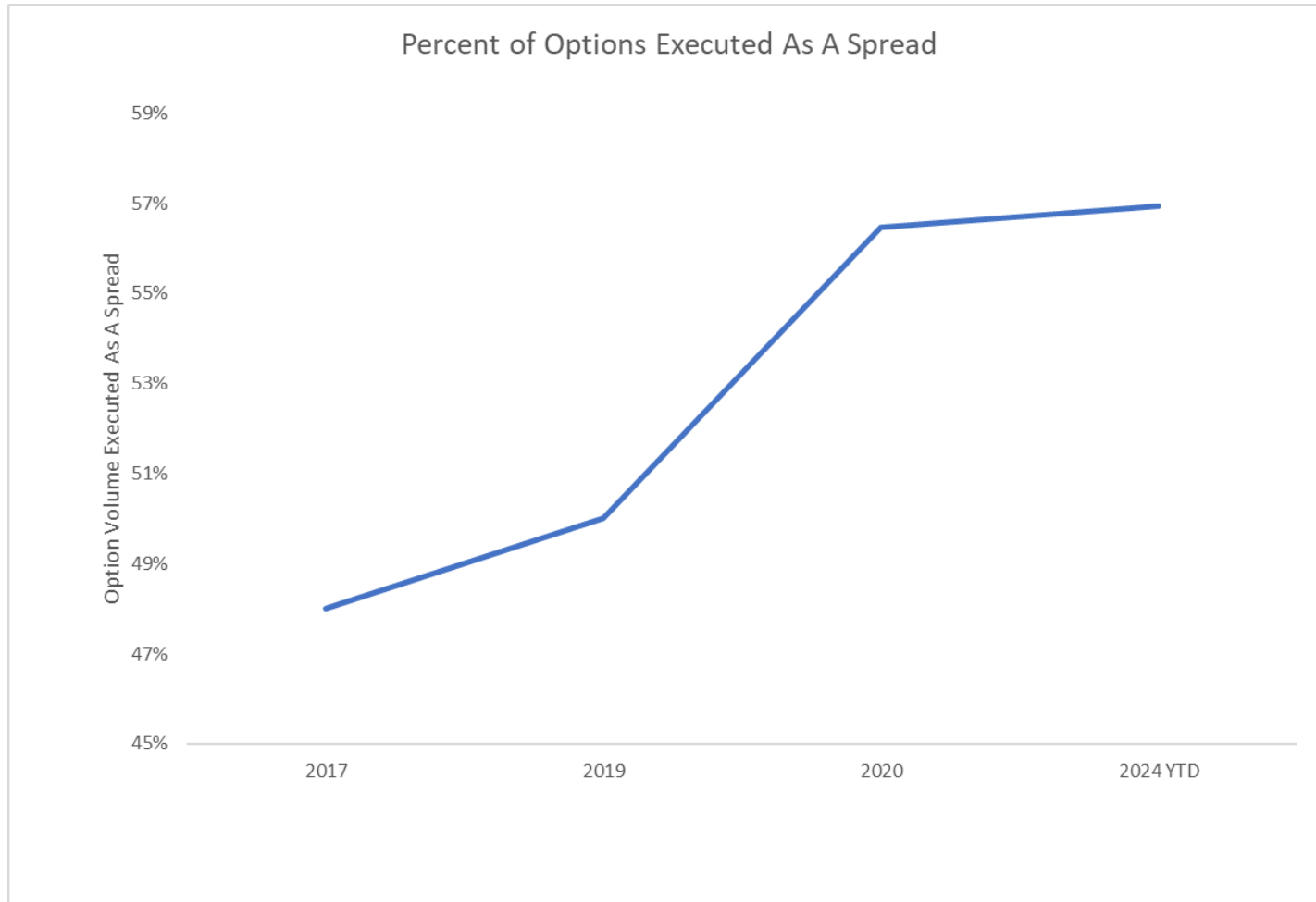
- **Weekly Options**- expire Friday on the lead underlying futures contract
- **Short Dated New Crop & New Crop Weekly Options** - Short term option with an underlying future based on the “new crop” (e.g. an option expiring in June that has an underlying December future)
- **Calendar Spread Options** - Options that have an underlying of a futures spread (e.g. option on the July/December futures calendar spread)



### Listing Cycle: Corn Options

		JUN	JUL	AUG	SEP	OCT	NOV	DEC
JULY FUTURE	WEEK 1 WEEKLY	✓						
	WEEK 2 WEEKLY		✓					
	STANDARD JUL			✓				
	WEEK 4 WEEKLY				✓			
DECEMBER FUTURE	NEW CROP WEEK 1	✓						
	NEW CROP WEEK 2		✓					
	SDNC - JUL			✓				
	NEW CROP WEEK 4				✓			
	SDNC - AUG					✓		
	STANDARD DEC							✓

# Ag Options Are Increasingly Traded As Spreads Which Tend to Limit Risk



## Ag Options are increasingly paired with both Futures and Options to trade as spreads

- Customers have become increasingly sophisticated in their use of Options Spreads to more effectively manage risk
- When paired with other Options, customers can limit risk with spreads like vertical spreads or calendar spreads that suit their risk profile
- When paired with Futures, customers can trade and risk manage in Volatility terms
- The ability to trade new crop and old crop with the same option tenure refines risk and spread opportunities
- Globex Spread functionality decreases execution costs when rolling hedges
- Options Spreads are more prevalent in Grains & Oilseeds than in Livestock markets

# CME Group Has Invested Significantly in Tools & Resources to Help Customers Expand their Options Usage Globally

- **CME Direct**

- *CME Group's front end with an enormous amount of tools and analytics to help customers see and interact with CME Group's Future & Options markets. The platform provides Hedgers access to advanced Option functionality and analytics in a low cost manner.*

- **QuikStrike**

- *Analytics and charting tool for analyzing and interpreting Options market activity. Helps Ag traders understand and track seasonality of volatility along with other key data points.*

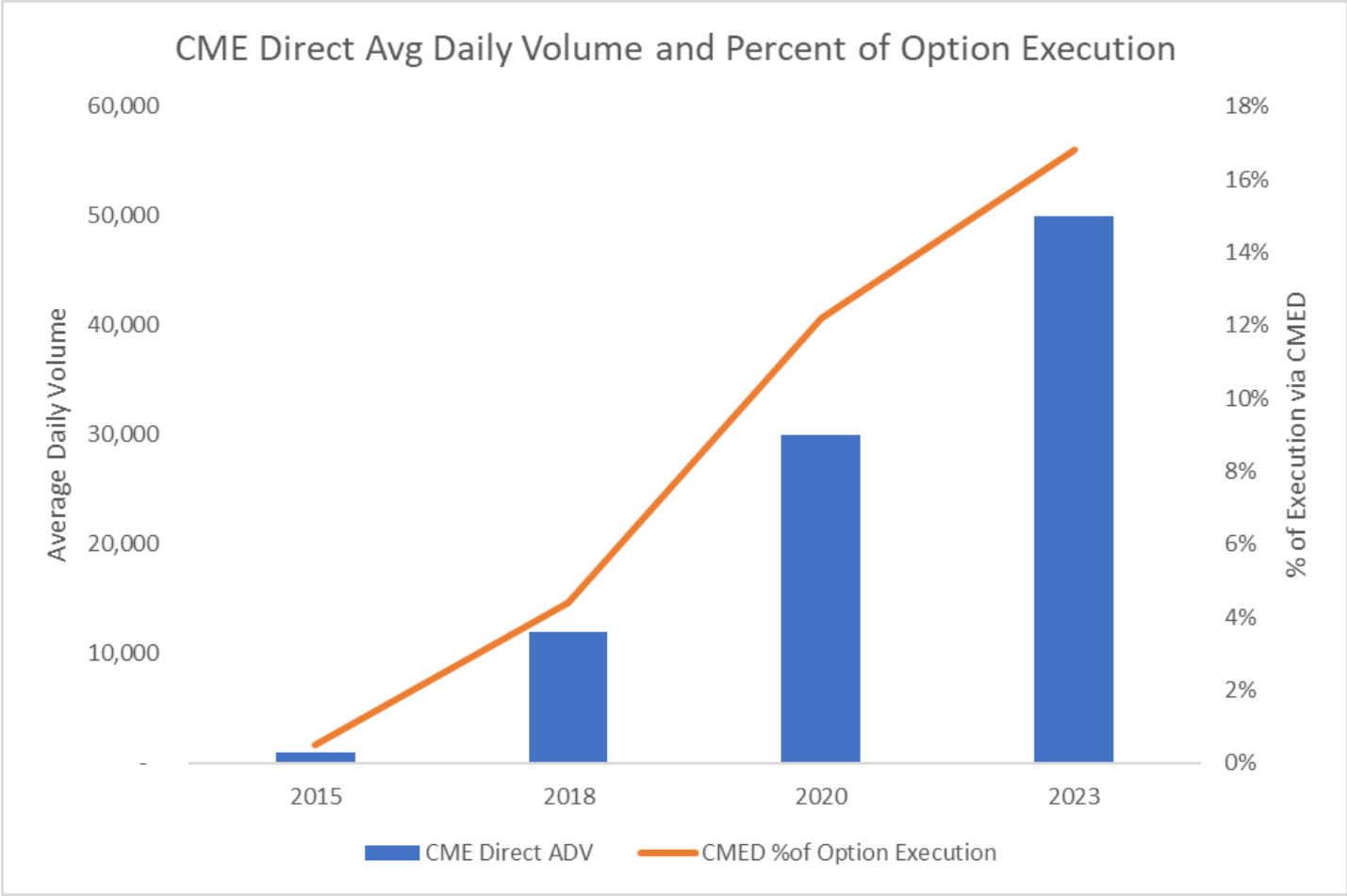
- **CVOL**

- *CME Volatility Indexes to track and chart volatility across 31 underlying instruments. Helps Ag participants follow Options markets to make more informed hedging decisions and understand market dynamics in an easy to digest manner. Most recently added Feeder Cattle in an effort to provide additional transparency.*

- **Education and Training Resources**

- *A full suite of tools and resources ranging from basic Options theory to complex spreads and volatility content. Ag-specific material is available to help bring Commercial hedgers farther along the risk management learning curve.*

# CME Direct Enables Expansion of Ag Options Across Client Segments



**Fully functional frontend to enable seamless access to market-leading analytics and execution capabilities**

- *Number one frontend for Ag Option volume*
- *~600 active users*
- *95% of cross volume facilitated on CME Direct*



# Option Analytics and Tools: CME Quikstrike

## Volume & Open Interest Analytics Tools

### Open Interest Heatmap

A concise view of how Put/Call Option OI is distributed by strike and expiry. Explore the concentration of put/call positions by total OI, change in OI, % change in OI, total volume or change in volume.

SOYBEANS (OZS) OI & Volume Heat Map

Expirations: [Dropdown] Heat Map: [Dropdown] Strikes: [Dropdown]

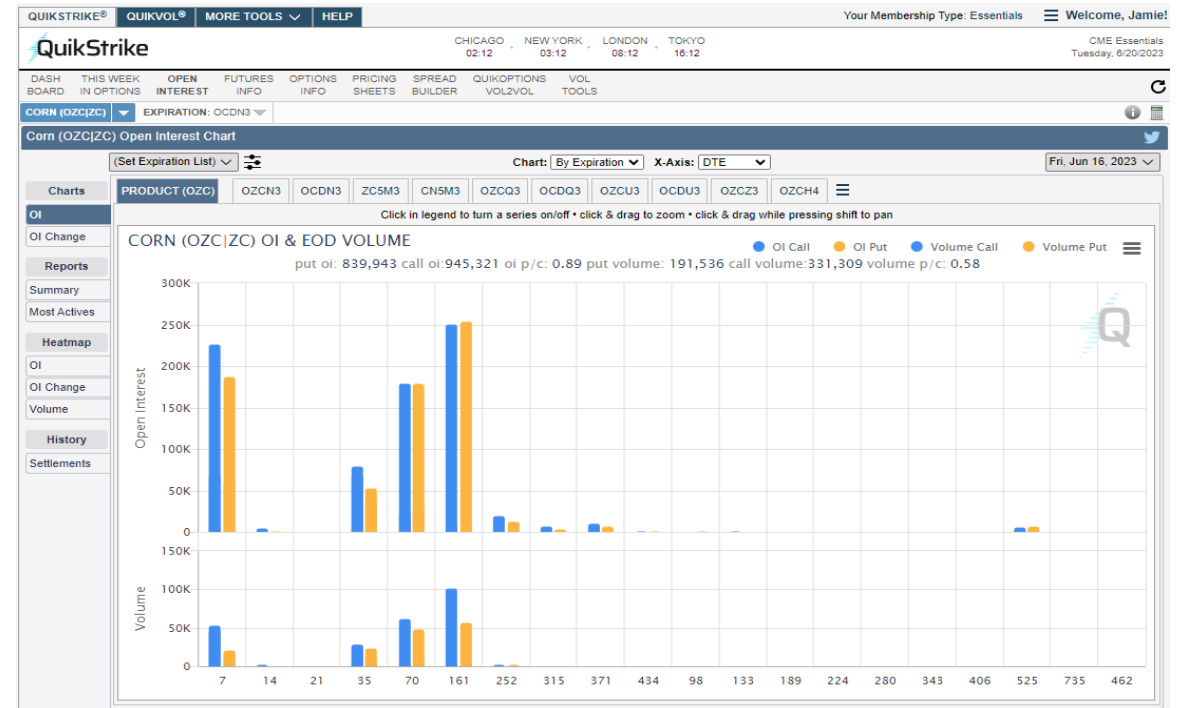
SOYBEANS (OZS) OPEN INTEREST AS OF 6/19/2020

STRIKES	OZSN0 4 DTE		OZSQ0 32 DTE		OZSU0 60 DTE		OZSX0 125 DTE		OZSF1 185 DTE		OZSH1 242 DTE		STRIKES
	CALL	PUT	CALL	PUT	CALL	PUT	CALL	PUT	CALL	PUT	CALL	PUT	
770	42	2,532	53	2,189		554							770
780	72	13,208	84	2,149	34	1,655	2	3,997		315	50	3,505	780
790	27	1,856	28	1,506	1	350							790
800	666	12,273	55	1,895	64	1,791	525	10,165		892		5,113	800
810	69	3,257	43	1,247		267							810
820	470	4,956	295	2,905	291	2,476	366	15,892		577	5	969	820
830	2,310	4,159	294	2,416		847							830
840	5,141	7,858	1,153	3,861	1,464	3,142	1,762	7,554	27	503	296	990	840
850	5,569	5,726	1,227	3,178	99	1,352							850
860	5,649	10,358	1,918	3,622	2,518	3,414	6,600	14,718	328	439	471	391	860
870	5,730	5,970	2,862	1,732	1,387	2,800							870
880	11,005	7,723	1,660	1,665	2,816	3,654	6,618	4,706	371	368	525	439	880
890	4,069	6,080	2,262	59	344	37							890
900	11,245	4,963	5,528	924	6,255	1,831	17,338	3,363	422	121	3,373	122	900
910	2,232	71	1,323	104	557	14							910
920	4,802	2,470	3,771	630	8,872	1,001	8,986	3,684	227	4	2,493	227	920
930	2,478	79	1,776	69	330								930
940	3,924	924	2,279	260	4,190	1,773	5,969	1,690	428	2	667	123	940
950	1,721	2	3,204	2	1,186								950
960	7,809	2,946	3,342	875	3,735	1,035	10,499	1,518	651	236	497	2	960
970	1,136	45	595		306								970
980	2,422	497	896	194	3,818	574	11,843	1,023	76	6	127		980
STRIKES	OZSN0 4 DTE		OZSQ0 32 DTE		OZSU0 60 DTE		OZSX0 125 DTE		OZSF1 185 DTE		OZSH1 242 DTE		STRIKES
	ZSN0 23 DTE 876.25	ZSQ0 64 DTE 875.00	ZSU0 86 DTE 874.25	ZSX0 145 DTE 879.75	ZSF1 207 DTE 883.25	ZSH1 264 DTE 879.25							

LOW HIGH

### Open Interest Chart

Simple charting features to visualize OI held and OI changes across multiple expirations. Ability to compare dates and query the OI distribution by DTE for a specific strike.



# CME Volatility Indices (“CVOL”)

Derived from the world’s most actively traded Options on Futures on CME Group...

## Multi-Asset Class Coverage

Creates a consistent & tractable metric across different products & asset classes



## Transparent & Replicable

CVOL delivers the ability to easily replicate an equivalent simple variance options portfolio via equal weighted option strips



## User-Friendly Calculation

Calculation methodology produces auxiliary indicators (DnVar, UpVar, Skew, Convexity, ATM) that enable more comprehensive sentiment analysis

# CVOL – Corn, Soybeans & Chicago Wheat

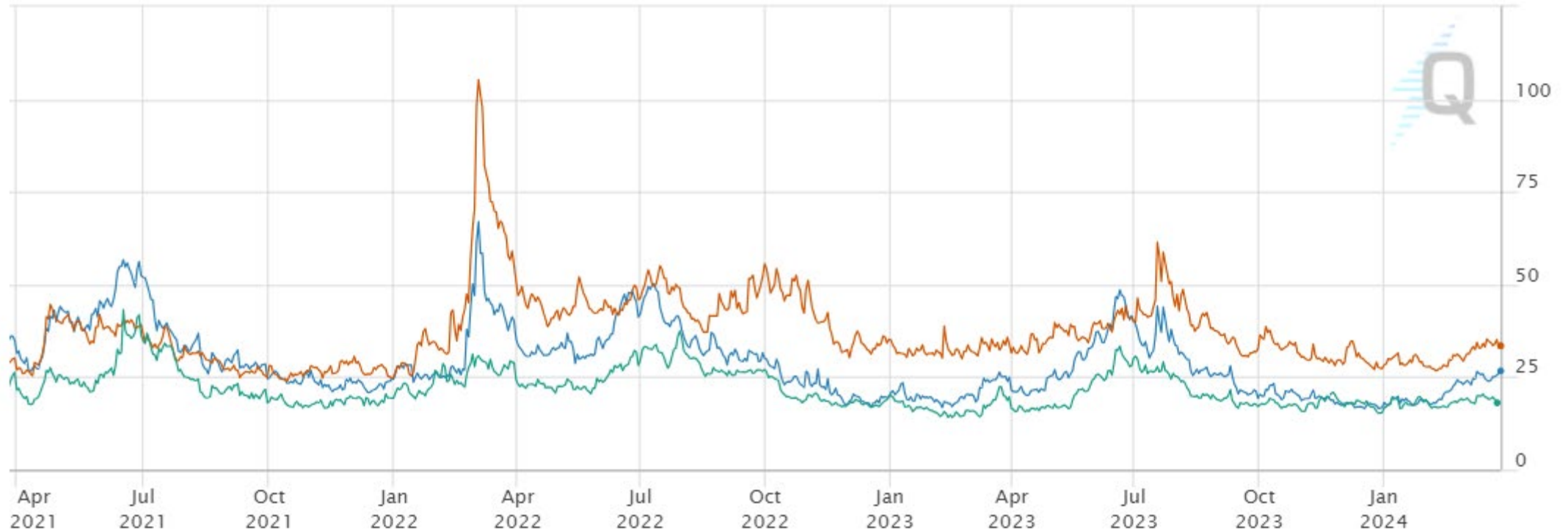
## CVOL INDEX PRODUCT COMPARISON

Zoom 1M 3M 6M 1Y 2Y **3Y** 5Y YTD ALL

27 Mar 2021 → 27 Mar 2024



— Corn (CVL) — SRW Wheat (WVL) — Soybeans (SVL)



# Education

## Client Training

Support our existing clients and NCA efforts to provide bespoke client training.

Create CME Institute workshops and online events to help acquire new clients and teach existing clients new opportunities.

- Client training
- Webinars
- Case studies
- Use cases
- Trainer the trainer/influencer

## Digital Learning

Created with today's learner in mind our lessons and courses help teach about products and market events.

All embedded into an online learning experience complete with tools and trading simulation.

- Videos
- CME Institute & web tools
- Trading simulation
- Curriculum
- Content journeys
- Third party education joint curriculum and simulator usage

## Localization

Localized education and content marketing strategies to maximize relevancy and engagement with target end users.

Expertise in content localization including cultural considerations of content development and production.

Content ownership and management of localized digital assets.

- Content strategy
- Translation
- External trainer/writer network

## Content Marketing

Third party channel network that showcases and leverages our content and market data to engage users who may not be interacting with CME today.

Targeted network across media, technology platforms, brokers and associations.

New market data pilot program allows data and content to directly influence revenue via demo and annual subscriptions.

- Market data marketing
- Channel strategy
- Sales and channel enablement

## Client Research

Client insights and intelligence that feeds content development and delivery. Tool management to help test digital functionality and design to optimize the user experience.

- Client Intelligence
- UXR
- Research Panel

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