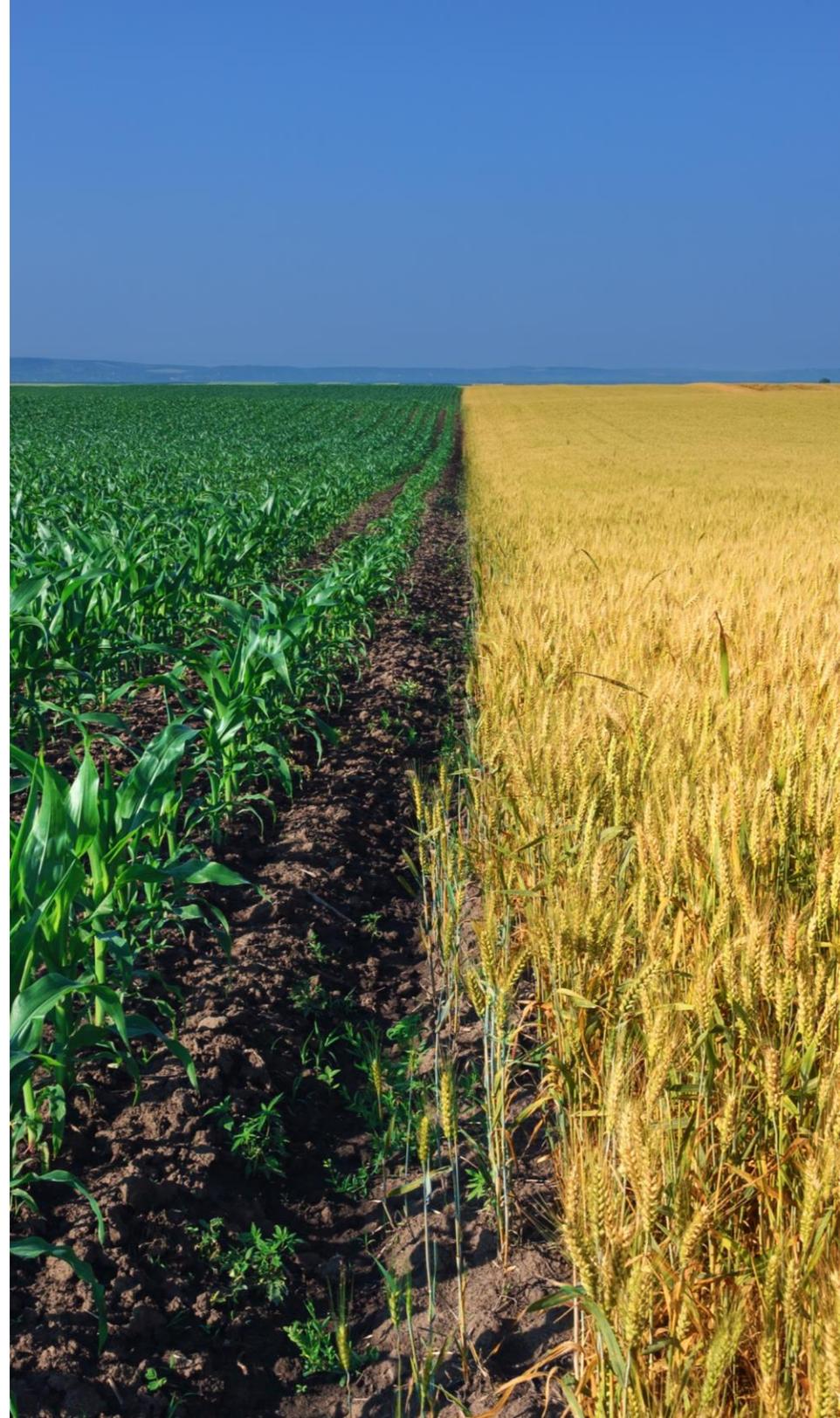


## Russia-Ukraine War

Impact on US Food Manufacturing –  
Wheat/Corn/Sunflower Oil/Fertilizer

March 22, 2022



# The Russia-Ukrainian War – Impact on Certain Food Commodities

The War exacerbated issues with certain food commodities already impacted by Covid-related supply chain challenges and 40-year high inflation levels. As a result, commodity prices further increased due to reduced crop availability, suspended port operations in Ukraine, and growing sanctions imposed on Russia by the international community.

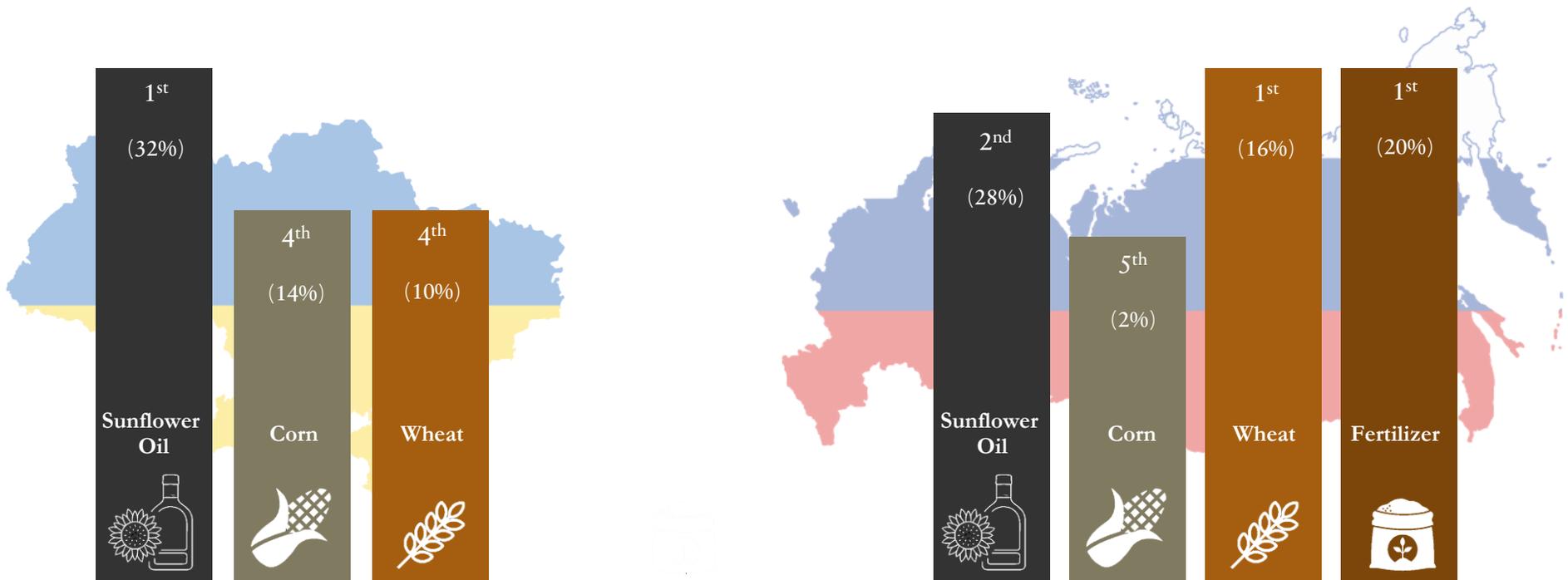
Russia and Ukraine are significant global exporters of commodities used in food production, such as wheat (26% of global supply), corn (16%), and sunflower oil (60%). Russia also supplies 20% of worldwide fertilizer. Grain and food oil prices have experienced sharp increases in recent weeks, leading to concern among food commodity purchasers. Additionally, indirect costs such as fertilizer are further driving cost increases and may lower crop yields.

While there will be a significant global impact on certain food commodity exports, the direct impact on the US food industry sourcing will be more muted, as > 90% of US wheat and corn consumption is domestically sourced and only ~0.2% of US agricultural exports are to Russia and Ukraine.

Notwithstanding the above, the impact of material increases in crop prices, fertilizer, and transport costs will likely impact profitability.

See p.5 for operational and financial risk considerations and recommended assessments to be performed.

## Global Export Ranking

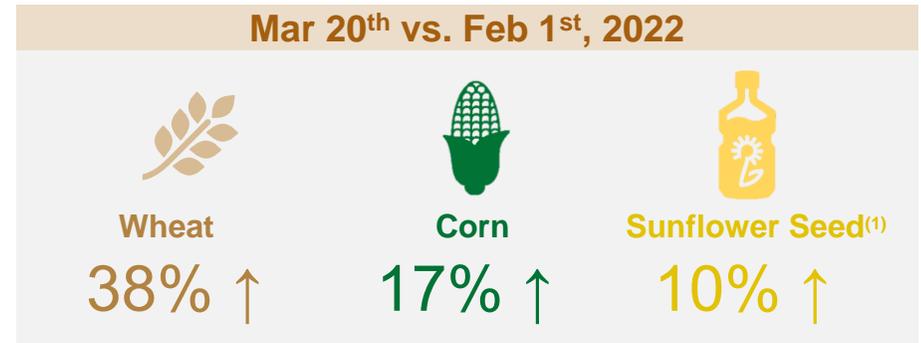


Source: USDA, Mar/22

# Cost of Wheat/Corn/Sunflower Oil Expected to Remain High Until 2023

## Significant Ukraine & Russia Global Exports; Limited US Dependence

- Russia's invasion sharply increased already elevated commodity prices, which are expected to remain high through next year, and may not be fully factored into futures prices;
  - "Agricultural futures markets have been slow to fully price the supply side disruptions and risks of shortages, due to restrictive daily trading limits on exchange. However, the risk profile of our latest price forecast revisions suggests that record high prices will be here for some time" (JPM - Mar/22);
- Despite significant global exports originating from Ukraine and Russia, the US is not considerably dependent on this supply as substantially all US wheat and corn consumption is domestically sourced, with imports <10% for wheat and <1% for corn (USDA - Feb/22);
- Although the US does not significantly depend on Ukraine and Russia's supply, domestic wheat production may not be sufficient and/or reliable given the potential rise in global demand for US commodities to fill the void and unfavorable crop conditions:
  - "Most of this year's American wheat crop is already planted, while soaring costs for fuel and fertilizer are blunting the economic incentives offered by Chicago wheat prices that this month reached \$13.40 a bushel, an all-time high" (Financial Times - Mar/22);
- The War is anticipated to increase prices already subject to high inflation;
  - "Any response from the US this time will take time. After a poor harvest last year, domestic wheat stocks are at their lowest level in 14 years, according to the [USDA]. [...] There is a worsening drought in important winter wheat states such as Kansas" (Financial Times - Mar/22);
  - "We are updating our inflation outlook for our foods coverage to account for the spike in energy, wheat and vegetable oil costs during the Russia-Ukraine conflict. We now expect 16% inflation in 2022 for packaged foods companies based on current spot prices, up from our prior estimate of 11% in December" (Credit Suisse - Mar/22).



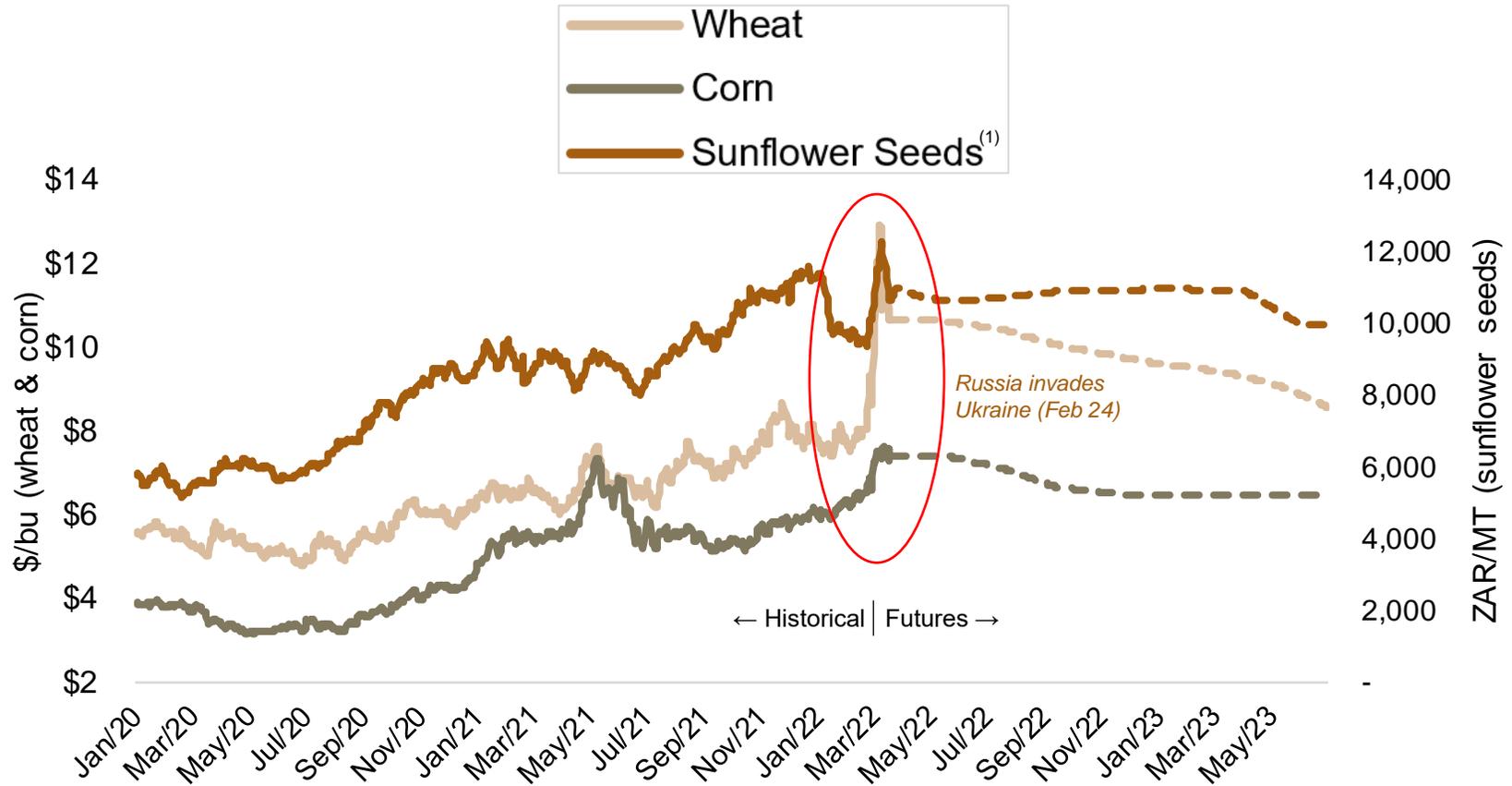
<sup>(1)</sup> Proxy for sunflower oil price due to limited historical data available and suspended trading for Black Sea sunflower oil (Platts) futures contracts

Global Food Commodity Exports					
Commodity	Russia	Ukraine	Total	US	Other Majors
Wheat	16%	10%	26%	11%	EU (18%), Australia (13%)
Corn	2%	14%	16%	33%	Argentina (22%), Brazil (17%)
Sunflower Oil	28%	32%	60%	~1%	Several <10%

## Wheat Markets Can Potentially Sustain Months of Disruption

- The full impact on wheat prices has not yet been fully determined as large importers have significant stockpiles and/or banned exports which will be consumed domestically (S&P - Mar/22);
  - "From the point of view of physical supplies, world wheat markets are equipped to manage trade flow disruptions over a period of one to three months, by sourcing from alternate origins, pushing out demand to the new crops' arrival in July, and drawing on domestic inventories in the meantime" (JPM - Mar/22).

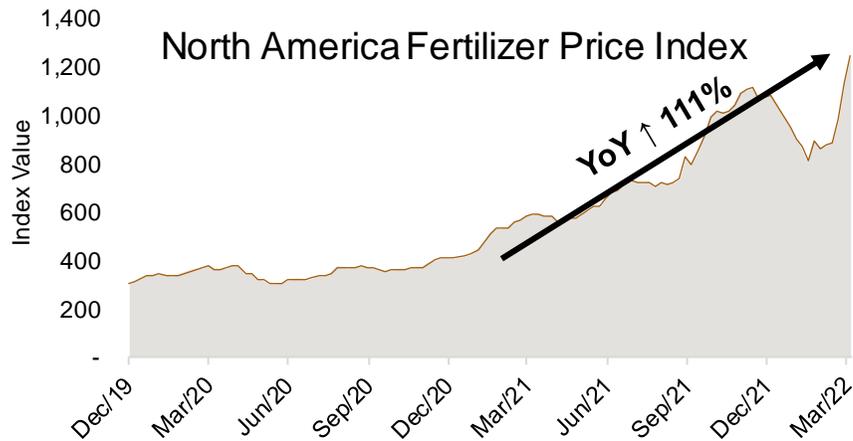
# Top Ukraine & Russia Food Commodities



Source: S&P, CBOT, SAFEX

<sup>(1)</sup> Proxy for sunflower oil price due to limited historical data available and suspended trading for Black Sea sunflower oil (Platts) futures contracts

# High Fertilizer Prices Leading to Higher Food Production Costs



Source: Green Markets Weekly North America Fertilizer Price Index (Bloomberg)

- The invasion has exacerbated record high food commodity costs and low yields as fertilizer costs and availability were already at record highs due to trade tariffs, plant shutdowns, increased energy costs, and sanctions on Belarus, the fifth largest fertilizer exporter;
- Russia accounts for nearly 20% of global supply of fertilizer, with 12% of US fertilizer imports from Russia (IBISWorld), the second largest source after Canada;
- *“Agriculture is anxious about the short-term availability of commodities used in fertilizer, such as ammonia, potash, and urea. Their surging prices reflect the importance of Russia and Belarus as major global exporters of fertilizer. [...] Farmers have been scrambling to secure fertilizer supplies. Wheat and corn prices may remain elevated”* (Bain - Mar/22);

- *“The world’s agricultural superpowers are divided over whether Russian fertilizers should be sanctioned as surging prices threaten to further stoke food inflation”* (Bloomberg - Mar/22);
- *“The war in Ukraine is shaking up the global agricultural sector. With sanctions blocking supplies from Russia, soaring prices caused by high demand for fertilizers from alternative producers are threatening crops”* (DW - Mar/22);
- Elevated world fertilizer prices could be further impacted if Russia chooses to suspend fertilizer exports, which would remove a large portion of global supply from the market (WSJ - Mar/22);

*“Fertilizer prices continue to surge to records as Russia’s invasion of Ukraine puts a massive portion of the world’s fertilizer supply at risk, adding to concerns over soaring global food inflation”*

*- Bloomberg - Mar/22*



## Outlook

*“The global reference price of fertilizers is expected to soar 13% by 2023, according to the United Nations' Food and Agriculture Organization, threatening to increase production costs, while reducing yields and outputs for the 2022-2023 crop seasons”*

# Key Risk Considerations to Address

Risks	Concerns	Operational Considerations	Required Assessment
<p><b>Supply Chain</b></p> 	<ul style="list-style-type: none"> <li>▪ Supply shortage</li> <li>▪ Product delays due to limited access to transport channels, including the Black Sea</li> </ul>	<ul style="list-style-type: none"> <li>▪ Protracted lead times</li> <li>▪ Vendor relationships</li> <li>▪ Inventory stockouts</li> <li>▪ Unfilled sales orders</li> <li>▪ Need to prioritize customer orders</li> <li>▪ Production disruption</li> <li>▪ Freight logistics</li> <li>▪ Unabsorbed overhead</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sophistication of MRP systems and adoption</li> <li>▪ Inventory position for key RM components in relation to production scheduling</li> <li>▪ Supplier diversification and contingency vendors</li> <li>▪ Consolidated sourcing across multiple facilities</li> <li>▪ Expertise of procurement team</li> <li>▪ Ranking of customer order fulfillment</li> <li>▪ In-house freight management capabilities and 3<sup>rd</sup> party outsourcing</li> <li>▪ Achievability of forecasted revenues and margins</li> <li>▪ Add-backs for supply chain disruption</li> </ul>
<p><b>Rising Input Costs</b></p> 	<ul style="list-style-type: none"> <li>▪ Significant ↑ cost of wheat, corn, food oils and fertilizer</li> <li>▪ Higher transport costs</li> <li>▪ Higher fertilizer cost</li> </ul>	<ul style="list-style-type: none"> <li>▪ Margin compression if unable to pass higher costs to customers</li> <li>▪ Lag between RM cost increases and customer price adjustments</li> <li>▪ Outdated costing BOM</li> <li>▪ W/C impact of increasing inventory safety stock positions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Forward supply contracts noting expiration dates</li> <li>▪ Hedging instruments</li> <li>▪ Customer contracts include price escalation clauses and notice provisions</li> <li>▪ Potential product reformulation to lower cost</li> <li>▪ Flexibility of costing system to update SKU costing</li> <li>▪ Vendor consolidation/migration to lower costs and improve price renegotiations</li> <li>▪ More frequent updates to standard costs</li> </ul>

# When the next move is critical

*Richter Consulting has significant experience in the middle-market. Our scope often focuses on business assessments, determination of liquidity needs and solutions, identification of profitability improvement initiatives and action plans, as well as the formulation of strategic alternatives for our clients.*

## Business & Liquidity Assessments/Turnarounds

- Business & operational assessments
- Integrated 13-week CF forecasts
- Comprehensive sensitized projections
- Crisis/liquidity management & monitoring
- W/C management
- Cost saving opportunities
- Covenant & loan amendments
- Strategic alternatives
- Lender group management
- Address stakeholder sensitivities

## Operational Performance & Improvement

- Management team assessment
- Revenue diagnostics
- Customer & product profitability
- Fixed/variable cost analyses
- KPIs and benchmarking
- Supply chain management
- Capex requirements
- Post-acquisition synergies
- Plant consolidation
- Reporting systems

## Transaction Advisory

- Financial and operational diligence
- Corporate carve-outs/asset divestitures
- Integration advisory
- W/C and liquidity
- Support contract negotiation and transaction structuring

## Forensics & Litigation Support

- Financial misrepresentations/gaming
- Revenue recognition/pre-billing issues
- Related party transactions
- Changes in accounting policies
- Forensic investigations
- Damages quantification

## ABL Diligence

- Pre-funding diligence
- Borrowing base assessment
- Risk-based focus
- System assessments

## CONTACTS

### HOWARD GROSS

Practice Leader  
312.448.1142  
[hgross@richterconsulting.com](mailto:hgross@richterconsulting.com)

### GILLES BENCHAYA

Partner  
312.835.8979  
[gbenchaya@richterconsulting.com](mailto:gbenchaya@richterconsulting.com)

### MORRIE RUTMAN

Partner  
312.859.1266  
[mrutman@richterconsulting.com](mailto:mrutman@richterconsulting.com)

### DANIEL TANNENBAUM

Partner  
312.914.3795  
[dtannenbaum@richterconsulting.com](mailto:dtannenbaum@richterconsulting.com)

### BRADLEY ZRIHEN

Partner  
312.380.0725  
[bzrihen@richterconsulting.com](mailto:bzrihen@richterconsulting.com)

### MATTHEW GOLDSMITH

Partner  
312.789.5593  
[mgoldsmith@richterconsulting.com](mailto:mgoldsmith@richterconsulting.com)

### MICHAEL PRINSKY

Senior Vice-President  
312.239.8686  
[mprinsky@richterconsulting.com](mailto:mprinsky@richterconsulting.com)

# RICHTER CONSULTING

---

**Prepared by:**

**Howard Gross**

**Practice Leader**

hgross@richterconsulting.com

**Matthew Goldsmith**

**Partner**

mgoldsmith@richterconsulting.com

**Aaron Rosenberger**

**Senior Associate**

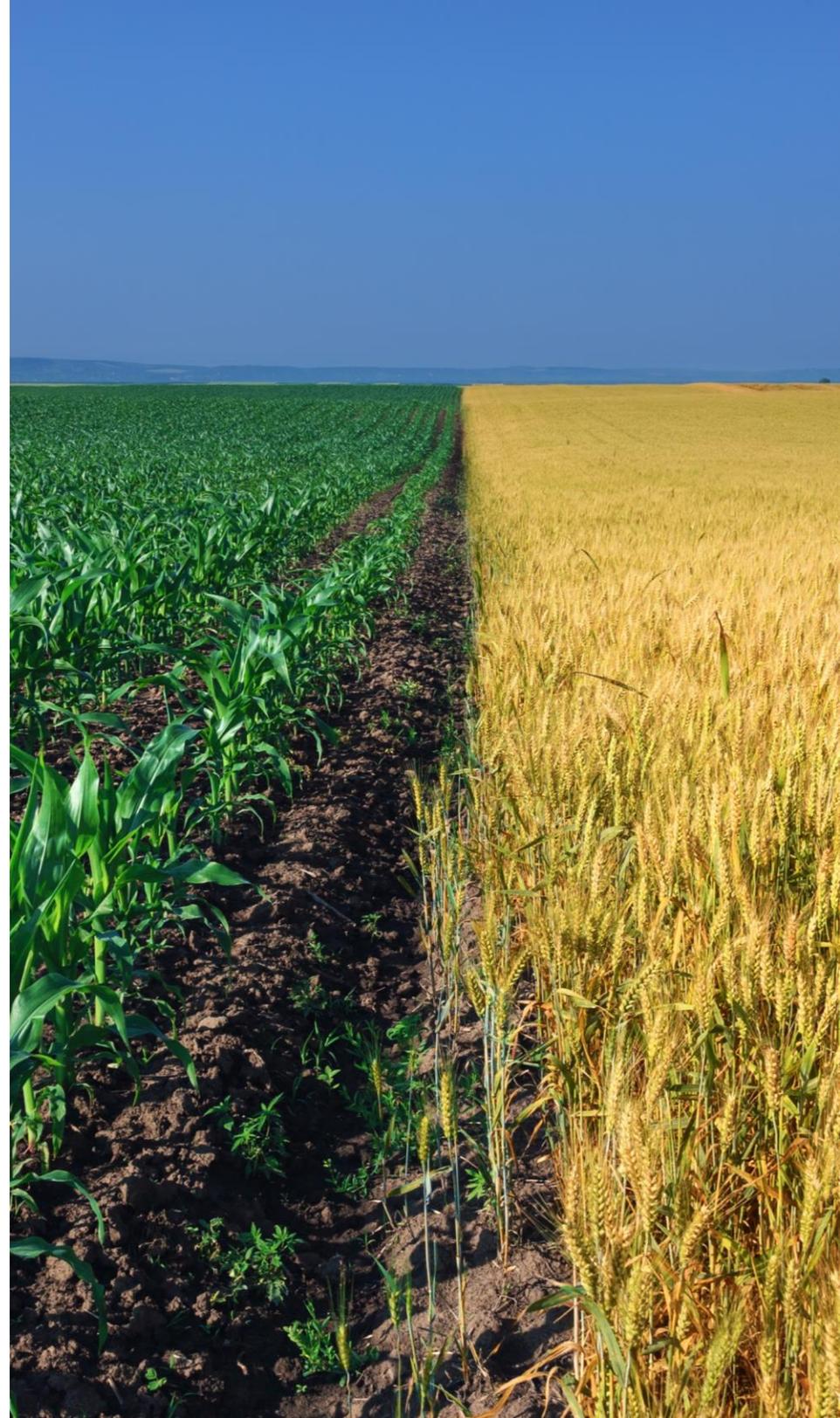
arosenberger@richterconsulting.com

## Russia-Ukraine War

Impact on US Food Manufacturing –  
Wheat/Corn/Sunflower Oil/Fertilizer

## Exhibits

March 22, 2022



# Exhibit 1 – Restrictions & Disclaimer

---

- This document is intended for general informational purposes only and does not take into account the reader's specific circumstances and may not reflect the most current developments. Richter disclaims, to the fullest extent permitted by applicable law, any and all liability for the accuracy and completeness of the information in this presentation and for any acts or omissions made based on such information. Readers are responsible for obtaining advice from their own legal counsel and other professionals.
- All content in this Newsletter is for informational purposes only. This document intended to provide insight based on certain currently available information for consideration and not specific advice. It is not intended to be a substitute for professional opinions on this subject matter.
- This Newsletter is not a comprehensive investigation nor is it intended to be relied upon by third parties.
- This Newsletter is confidential, not intended for general circulation or publication, and may not be reproduced or referred to in whole or in part without our prior written permission. We will not assume any responsibility or liability for losses occasioned by the reader or any other parties as a result of the use, circulation, publication, reproduction or use of the Newsletter contrary to the provisions of this paragraph.
- This Newsletter is not intended to be complete and certain information and findings are not reflected therein. Richter does not make any representations or warranties of any kind with respect to this Newsletter, including, without limitation, to (i) the accuracy or completeness of the information (ii) the presence or absence of any errors or omissions (iii) commentary by Richter as a result of any information referenced therein.
- The Reader should make its business and financing decisions based solely on their own analyses, research, and sources, without reliance on this Newsletter.

# Exhibit 2 – Significant Agricultural Regions Impacted with Additional Key Farmlands Near Battlefield

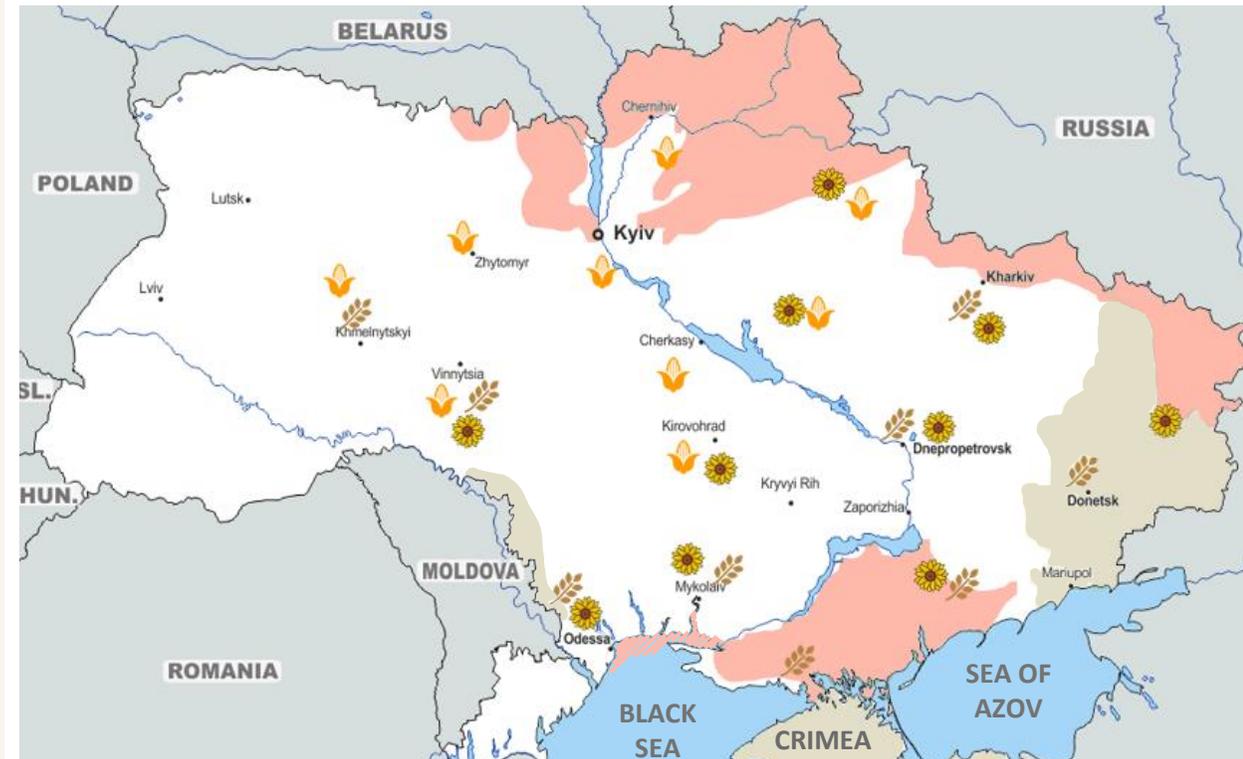
## Ukrainian Crop Damage

- A significant portion of the winter season's crop land could be damaged as a result of the ongoing War;
  - *"Between 20 and 30 percent of the areas under winter cereals, maize and sunflower seed in Ukraine will either not be planted or remain unharvested during the 2022/23 season, with the yields of these crops also likely to be adversely affected"* (Food and Agriculture Organization of the UN - Mar/22);
- The area sown with Ukraine's 2022 spring grain crops could fall ~40% to 4.7 million hectares due to the invasion;
  - *"As Ukraine's vast farmlands get caught up in war, there's a real risk that the [nation] will struggle to plant seeds this year and that harvests of other crops already sown will suffer"* (Bloomberg - Mar/22);
- Production from the spring planting season which will begin in April will likely be limited;
  - *"Many farmers in Ukraine have fled or have been pushed off their farms"* (IBISWorld) and *"Ukraine traditionally starts spring field work in late February or in March but this year's cold spring delayed that significantly"* (Reuters - Mar/22);
  - *"Corn- or wheat-based derivatives are likely to be affected by production shortfalls and the diversion of supplies to food"* (Bain - Mar/22).

## Transportation Factors

- Crop prices are indirectly increasing due to higher transportation costs. >95% of Ukrainian grain exports are transported via the Black Sea ports of Odessa & Mykolaiv (USDA, Apr/21), arriving to the ports through ~68% railway, ~23% highways, and ~8% waterways (river) (USDA - Mar/20);
  - Insurance premiums for Black Sea vessels have increased drastically, leading to higher grain shipment costs (CNBC - Mar/22);
  - *"The risk of longer-term production disruptions emanating in Ukraine due to conflict-related resource and logistics dislocations raise more durable threats of longer-term physical supply shortages"* (JPM - Mar/22);
- Ukraine has suspended commercial shipping at its ports in response to the invasion, limiting global exports;
- Should the ports of Odessa & Mykolaiv remain closed, long-term exports may be impacted.

## Russian Invasion Impact on Ukrainian Wheat, Corn, and Sunflower Production



Sources: State Statistics Service of Ukraine, Organization for Security and Cooperation in Europe, Potomac Foundation; WSJ

Region Accounting for >5% of National Production		Status	
	Wheat		Controlled by Russia – March 20, 2022
	Corn		Annexed, controlled, or allied to Russia prior to 2022 invasion
	Sunflower Seed		