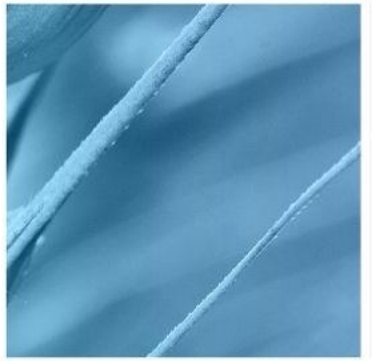
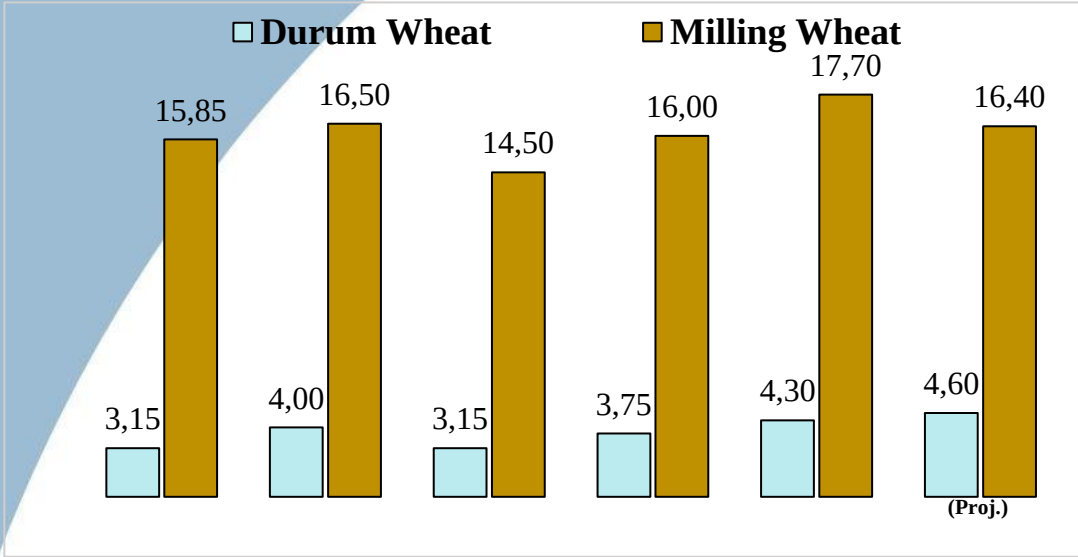
Millers Perspectives for Sustainability

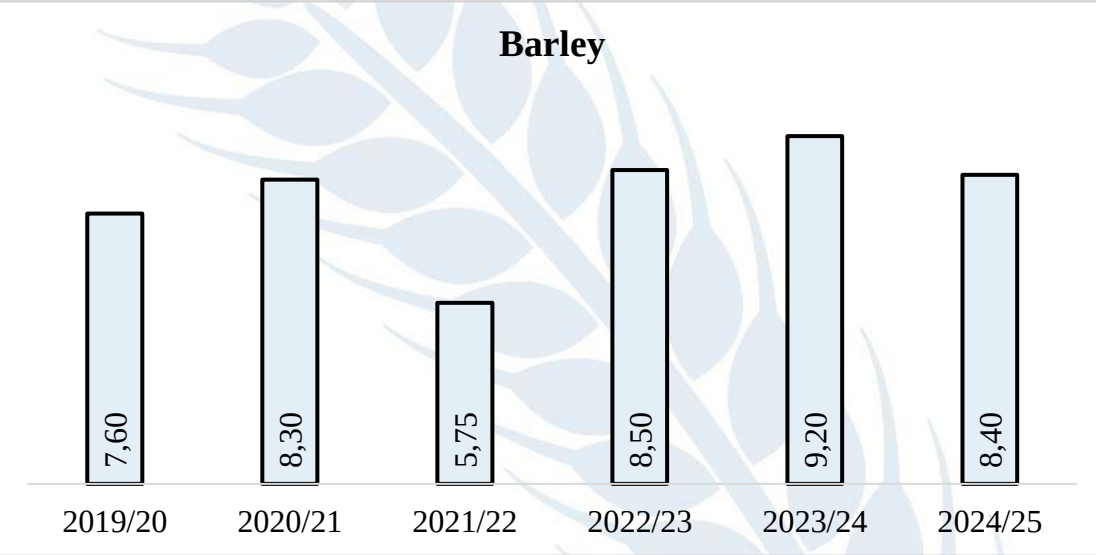
Dr. Eren Günhan Ulusoy

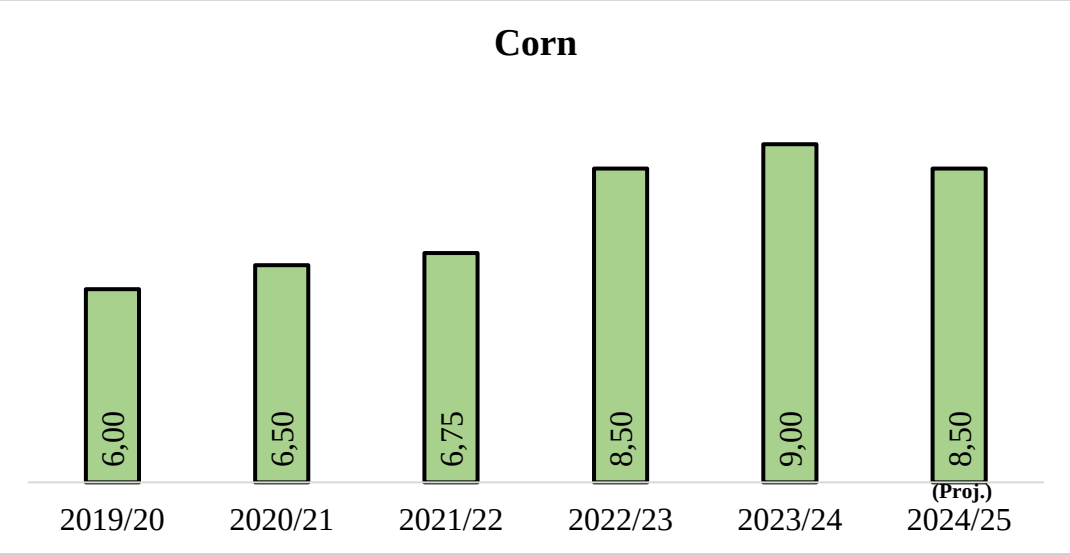


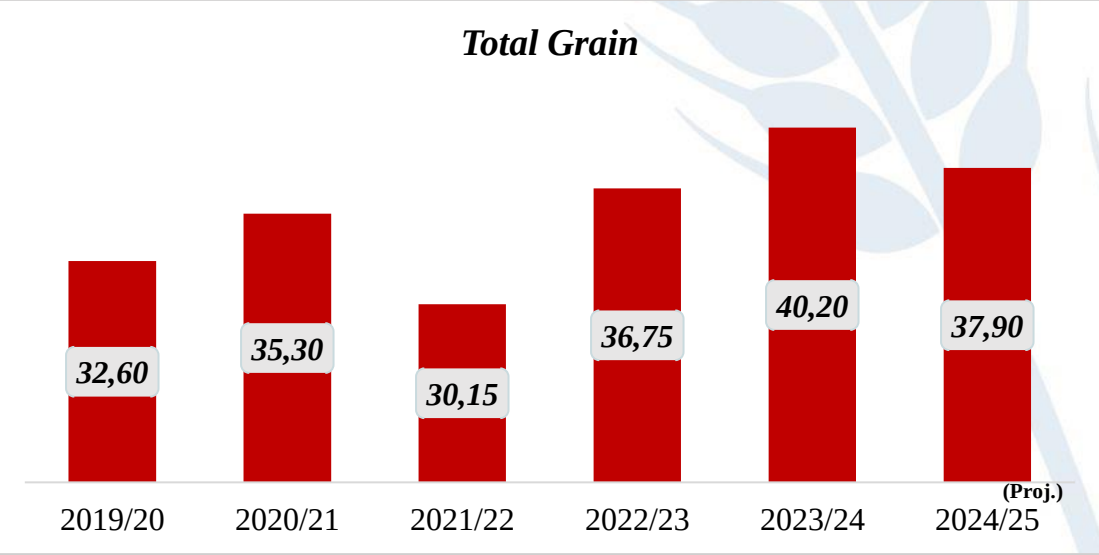
TURKISH WHEAT SUPPLY & DEMAND

TÜİK Turkiye Wheat, Barley and Corn Production, mmt



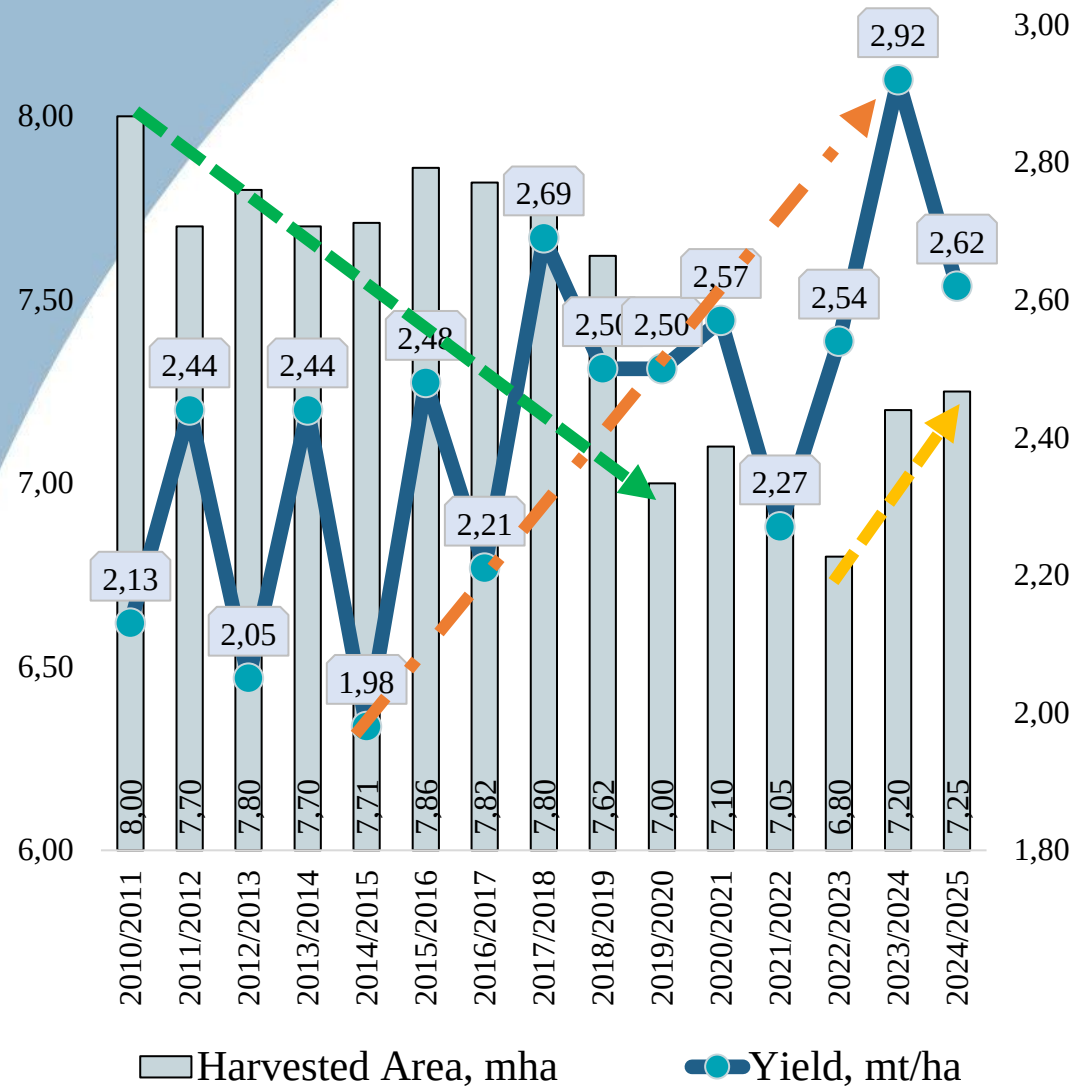


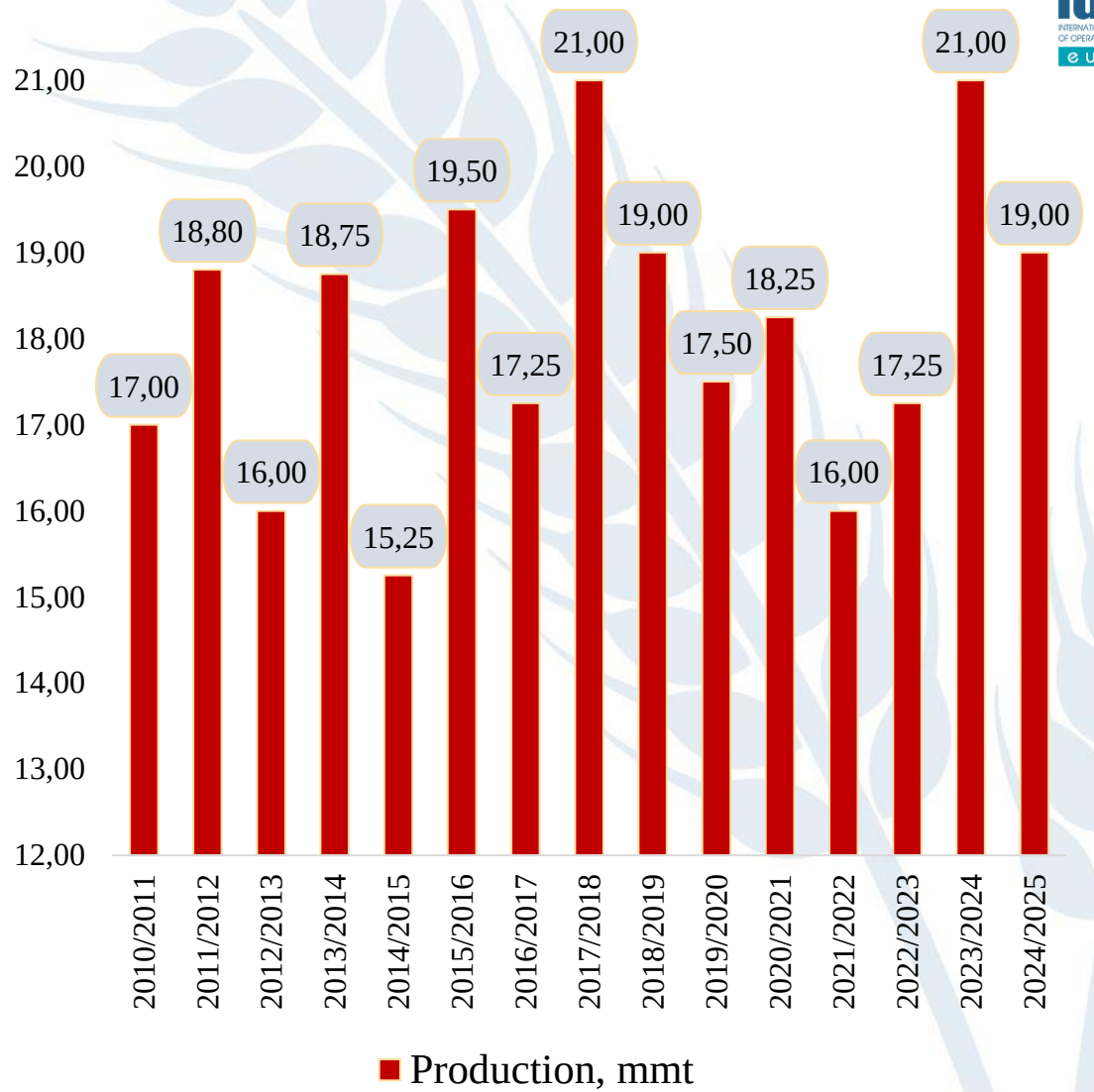




(Proj.)

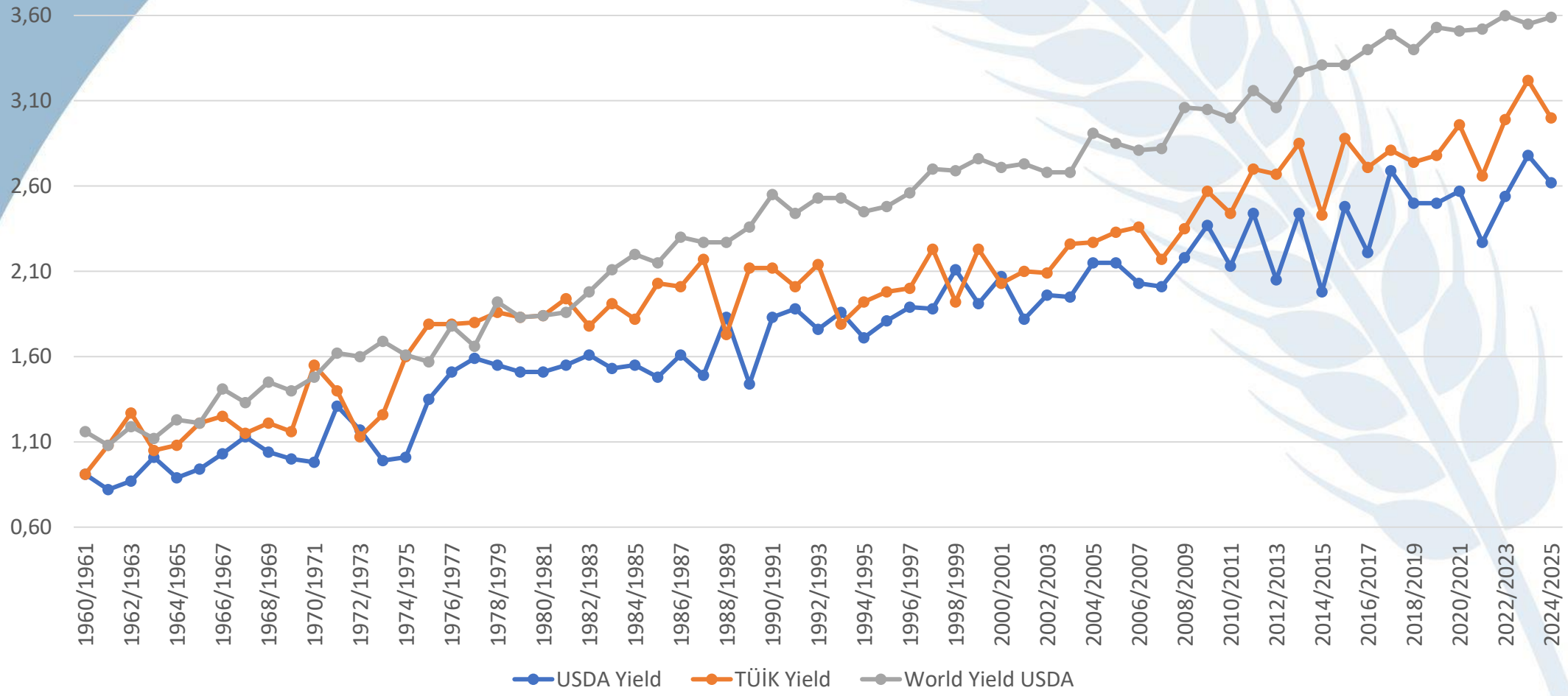
Turkiye Wheat Production, Area and Yield





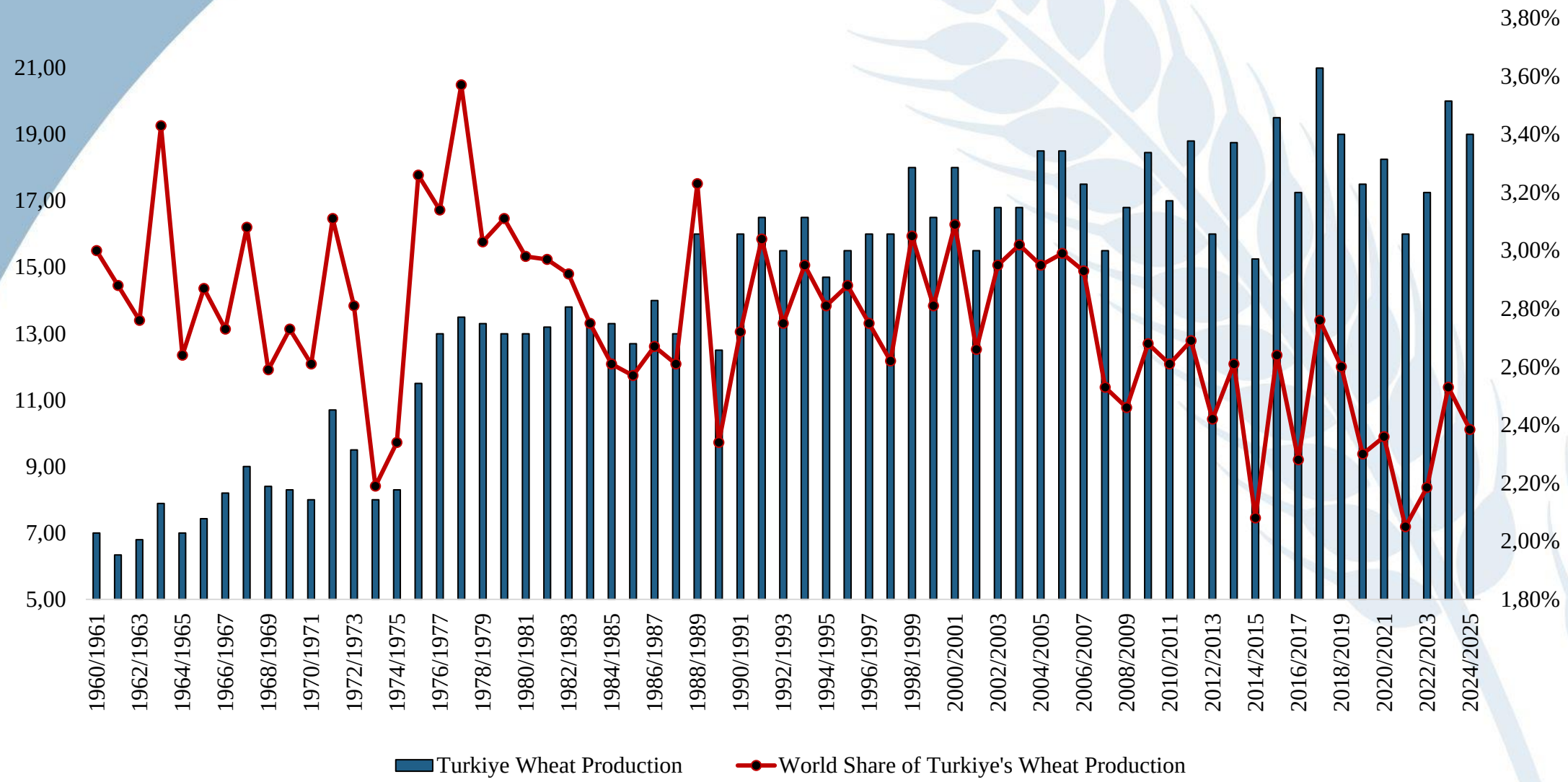
Source: USDA

Turkiye / World Wheat Yield Comparison, mt/ha



Source: USDA/TUIK

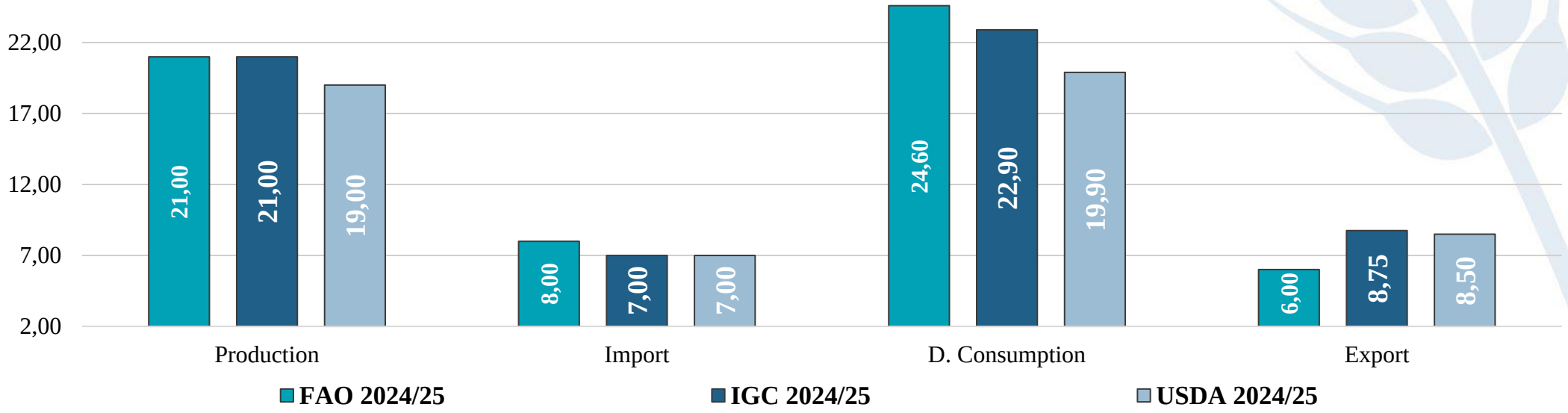
World Share of Turkiye's Wheat Production, mmt%



Source: USDA

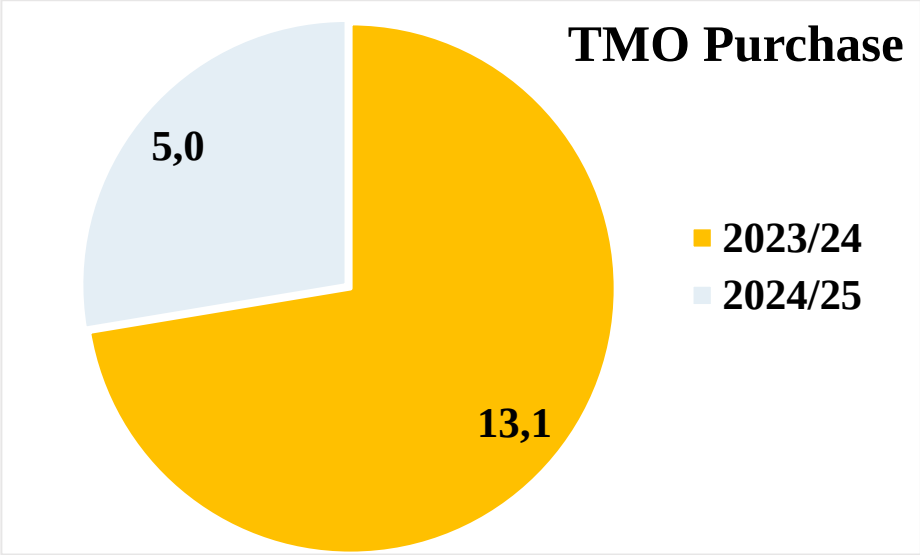
Turkiye Wheat S&D

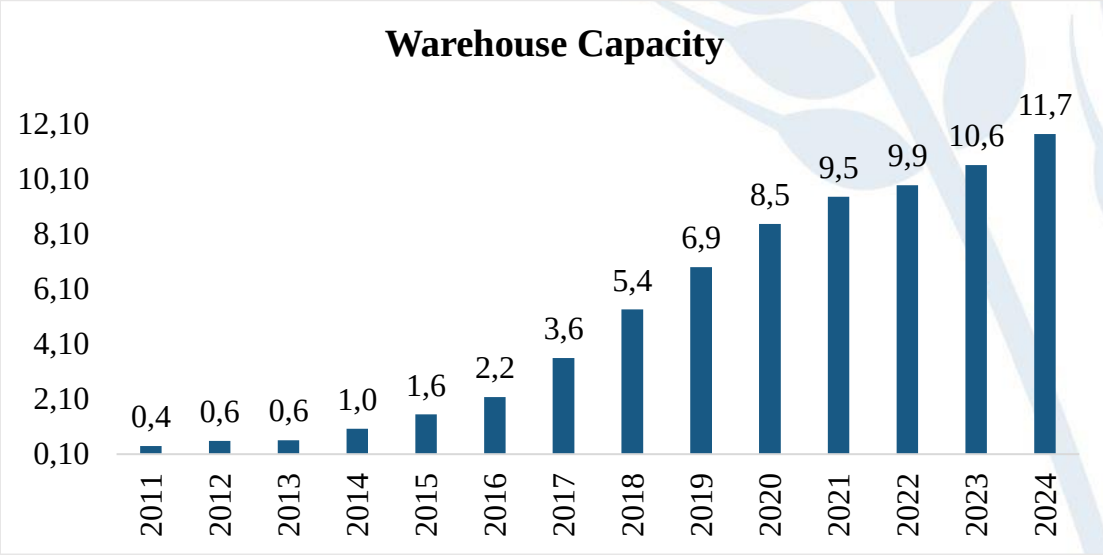
	B. Stocks			Production				*Import*				D. Consumption				*Export*			Ending S.			Use to Ratio		
MY	FAO	USDA	IGC	*TÜİK*	FAO	USDA	IGC	*TÜİK*	FAO	USDA	IGC	*TÜİK*	FAO	USDA	IGC	FAO	USDA	IGC	FAO	USDA	IGC	FAO	USDA	IGC
2020/21	6,98	4,47	5,51	20,50	20,50	18,25	19,50	8,23	8,14	8,08	8,63	18,93	24,20	20,60	21,74	4,19	6,47	6,69	7,23	3,73	5,21	30%	18%	24%
2021/22	7,23	3,73	5,21	17,65	17,65	16,00	17,65	9,52	9,41	9,42	10,74	19,11	24,25	20,10	21,68	4,49	6,71	6,41	5,56	2,34	5,50	23%	12%	25%
2022/23	5,56	2,34	5,50	19,75	19,75	17,25	19,75	12,20	12,06	12,07	13,88	19,46	24,35	20,20	22,46	4,77	6,88	6,85	8,25	4,58	9,82	34%	23%	44%
2023/24	8,37	4,58	9,82	22,00	22,00	21,00	22,00	8,34	9,32	9,35	9,81		24,50	19,80	23,64	7,54	9,94	9,57	7,65	5,19	8,41	31%	26%	36%
2024/25	7,65	5,19	8,41	21,00	21,00	19,00	21,00		8,00	7,00	7,00		24,60	19,90	22,90	6,00	8,50	8,75	6,05	2,79	4,76	25%	14%	21%
Change	-0,72	0,61	-1,41	-1,00	-1,00	-2,00	-1,00		-1,32	-2,35	-2,81		0,10	0,10	-0,74	-1,54	-1,44	-0,82	-1,60	-2,40	-3,65	-7%	-12%	-15%



TMO Domestic Purchases and Grain Price

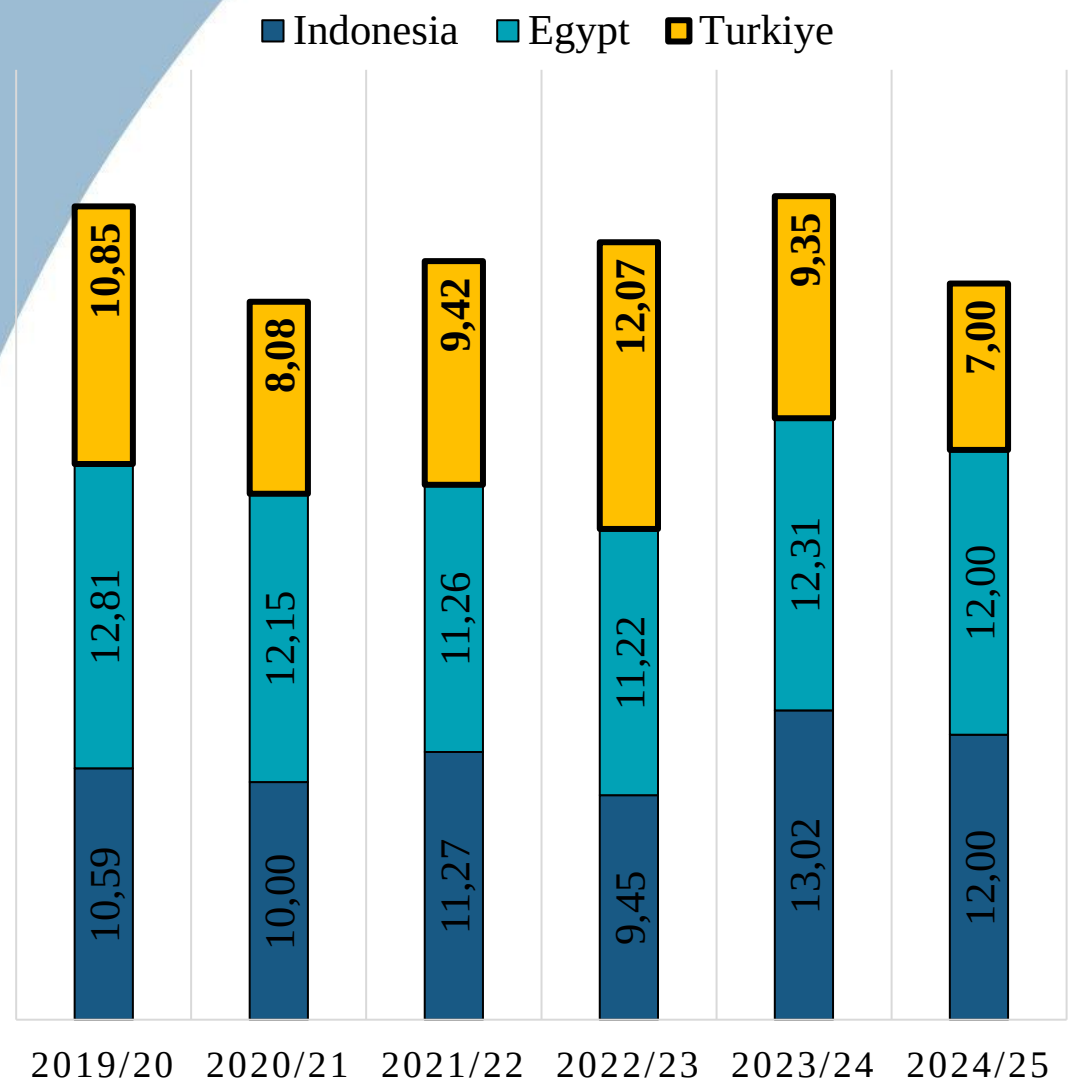
Commodity		Quality	2024/25 Buying Price (₺/mt)	Change of 2024 compared to 2023 %	2023/24 Buying Price (₺/mt)	Change of 2023 compared to 2022 %	2022/23 Buying Price (₺/mt)	Change of 2022 compared to 2021 %	2021/22 Buying Price (₺/mt)
Durum Wheat	(1st Group)	**13,5 and above**	**10.500**	**15,38%**	9.100	37,88%	6.600	164,00%	2.500
	(2st Group)	**12,5 -13,4 Pro**	**10.000**	**11,11%**	9.000	38,46%	6.500	165,31%	2.450
	Low Quality	**10,5 - 11,5 Pro**	**8.750**	**6,06%**	8.250	32,00%	6.250	184,09%	2.200
Milling Wheat	(1st Group)	**13,0 and above**	**9.750**	**16,77%**	8.350	35,77%	6.150	167,39%	2.300
	(2st Group)	**12,0-12,9 Pro**	**9.250**	**12,12%**	8.250	36,36%	6.050	175,00%	2.200
	Low Quality	**10,4 and below**	**8.000**	**6,67%**	7.500	24,48%	6.025	65,98%	2.050
Barley	(1st Group)	**64 and above kg/hl**	**7.300**	**2,82%**	7.100	26,79%	5.600	215,49%	1.775
	(2st Group)	**64 and below kg/hl**	**7.250**	**3,57%**	7.000	27,27%	5.500	214,29%	1.750
Corn	(1st Group)	**14,0 moisture**	-	-	6.050	6,14%	5.700	-	-
	(2st Group)		-	-	6.000	7,14%	5.600	-	-



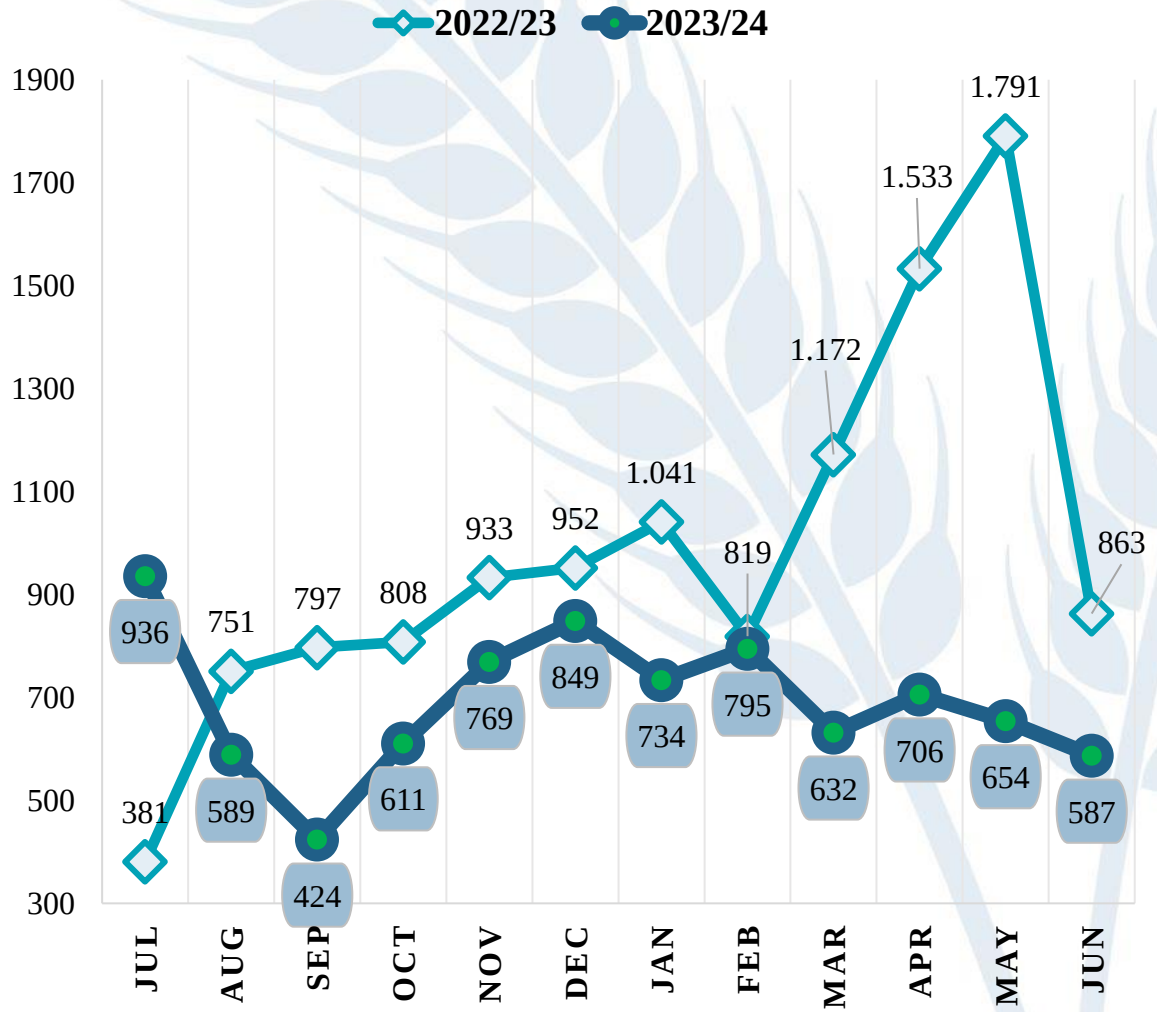


Wheat Importer

Top 3 Importer, mmt

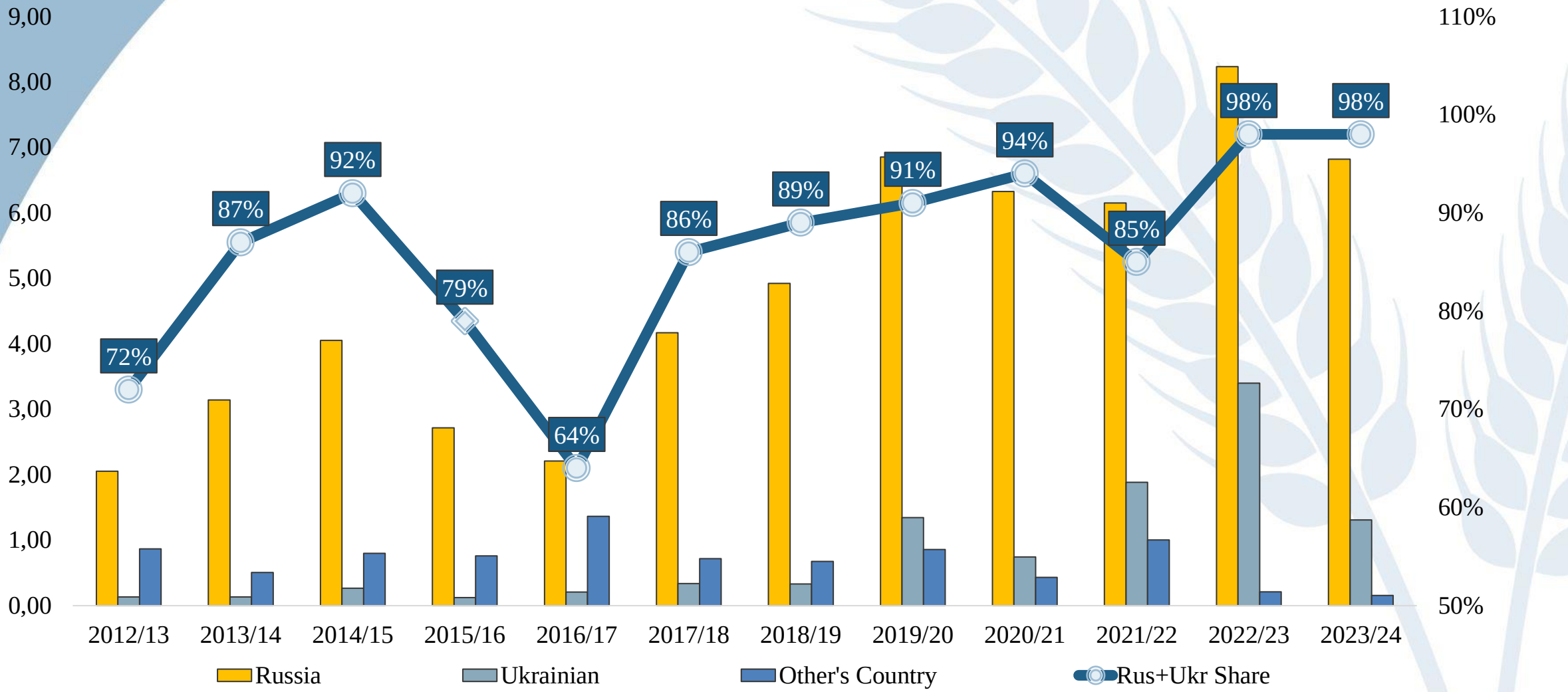


Turkey Milling Wheat Import, tmt



Source: USDA, TUIK

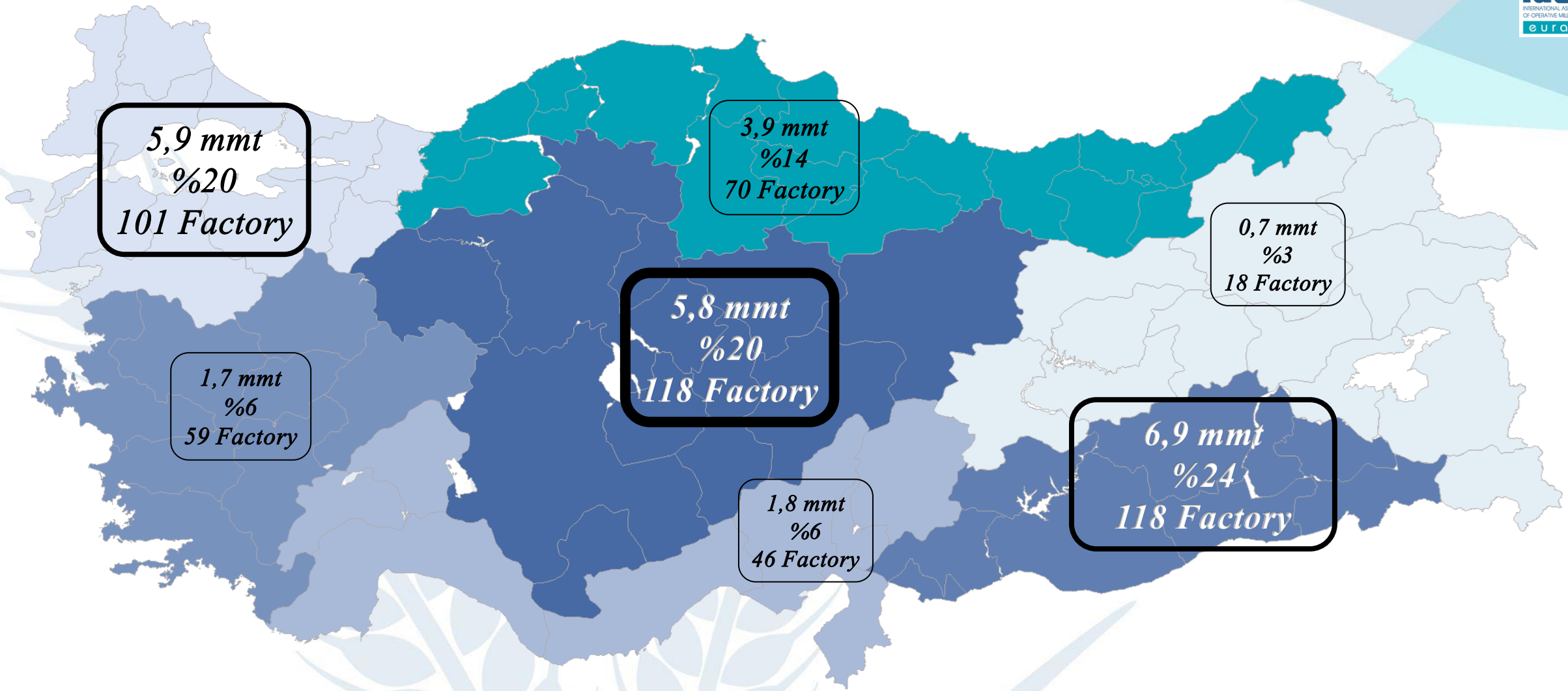
Importance of Russian/Ukrainian Exports in Turkiye's Wheat Imports



Source: TUIK

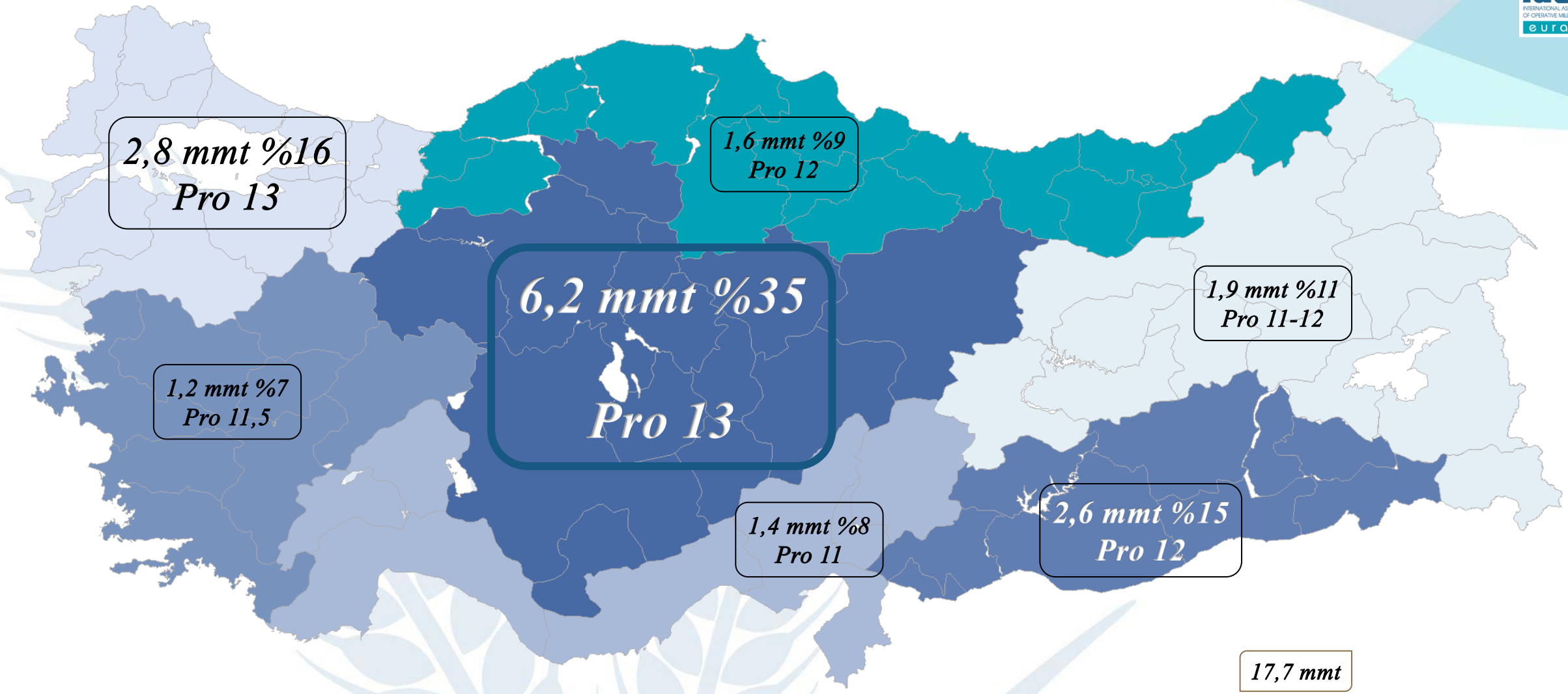
TURKISH MILLING INDUSTRY & FLOUR EXPORTS

Flour Mill Capacity, Number and Distribution Rate by Region

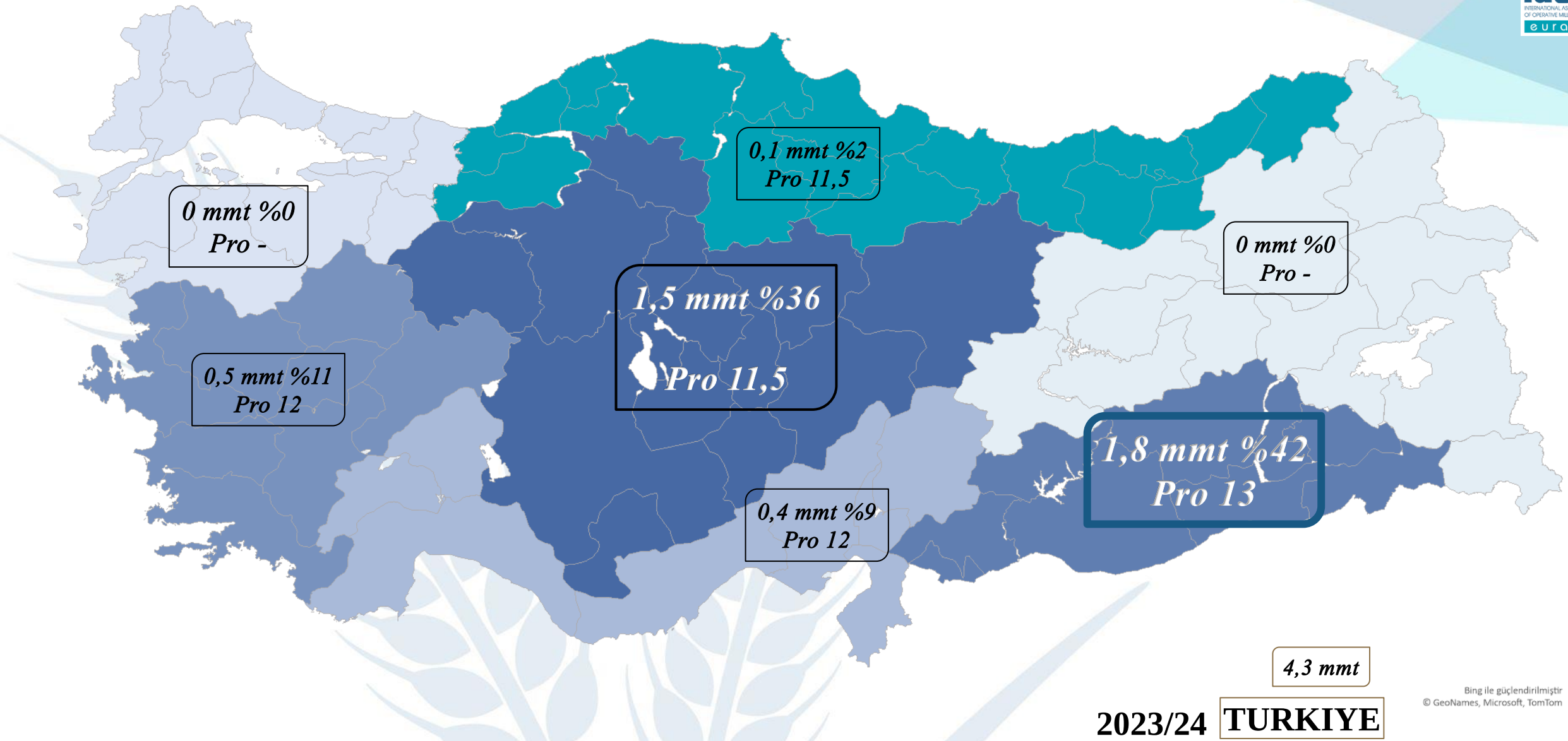


Source: TOBB

Milling Wheat Production, mmt/%

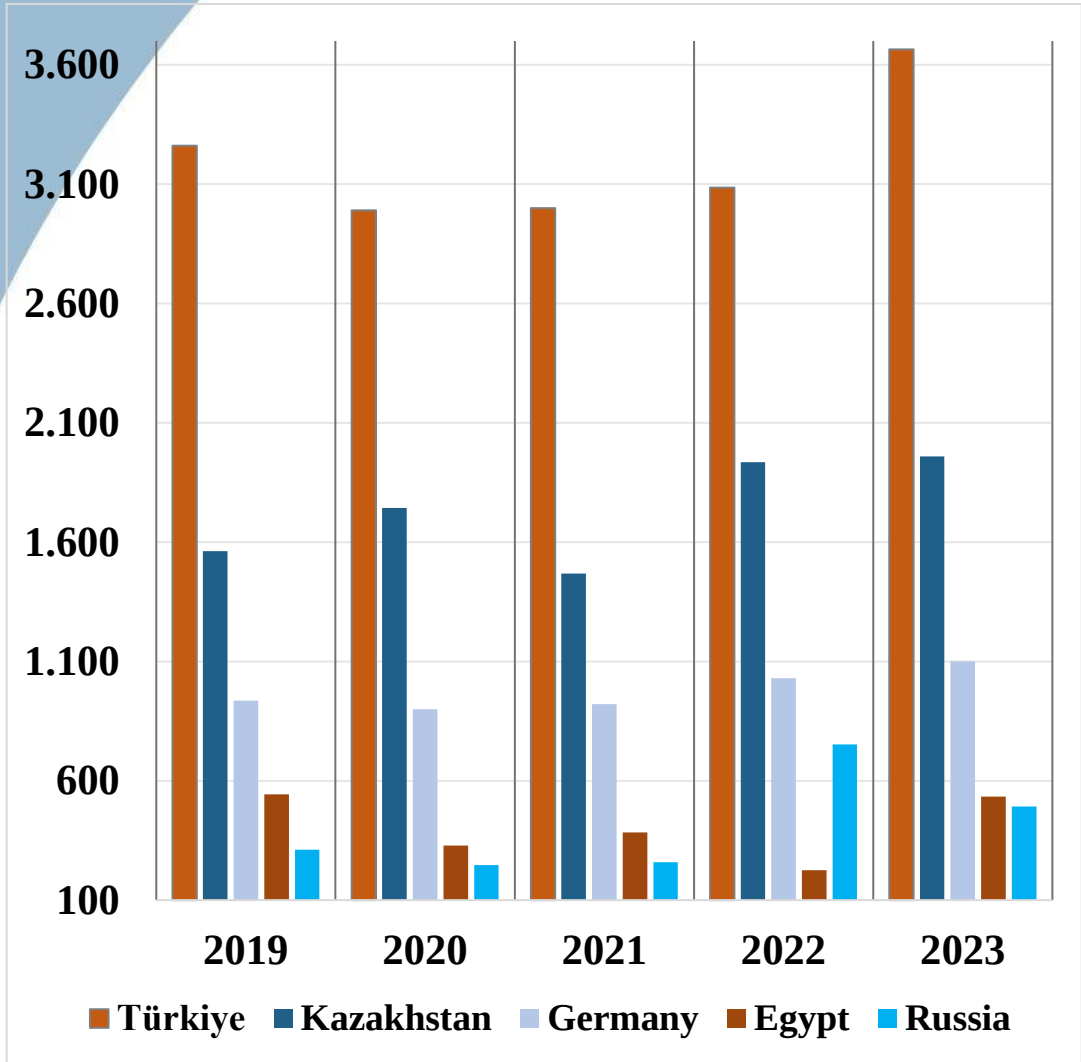


Durum Wheat Production, mmt/%

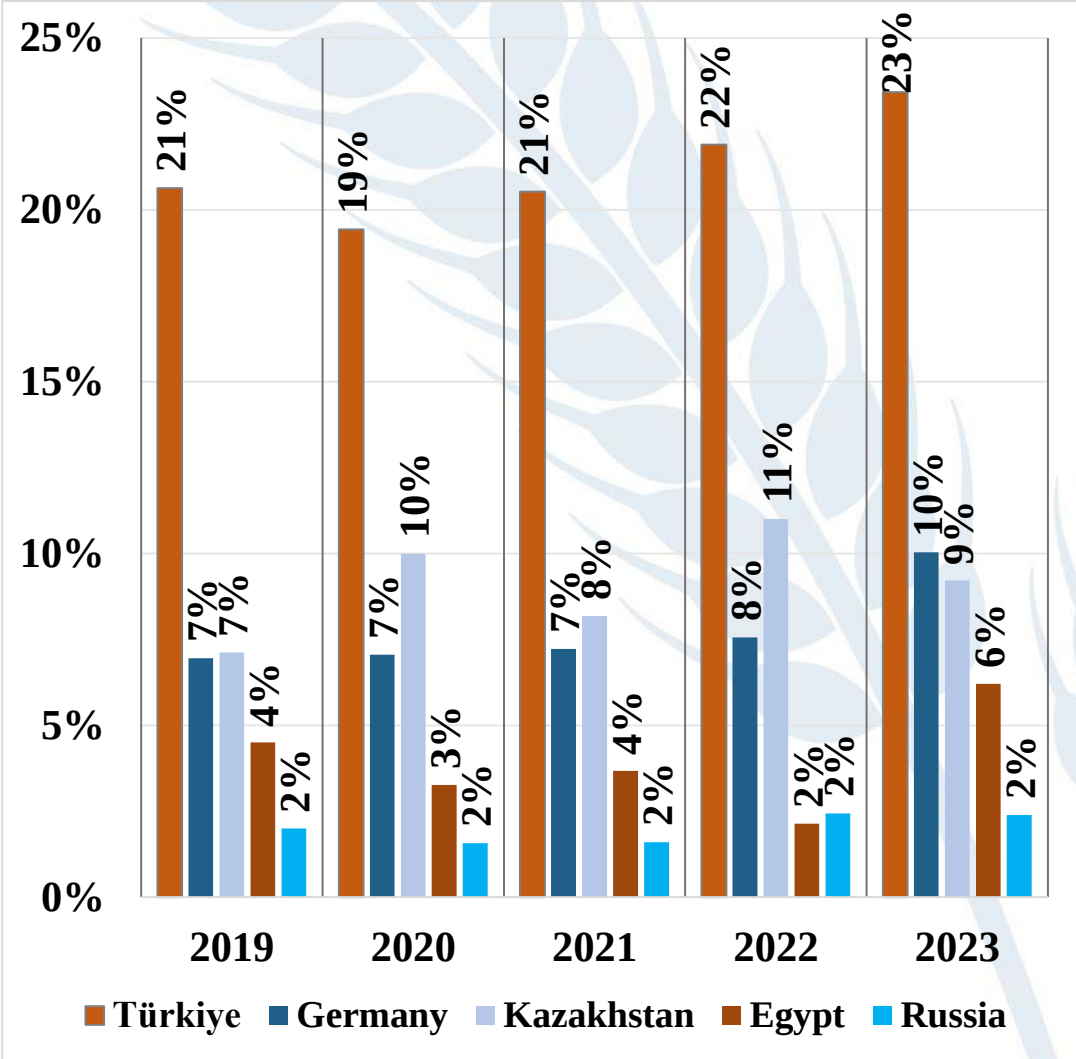


Wheat Flour Top 5 Exporter and Value Ratio

Top 5 Wheat Flour Exporters, tmt

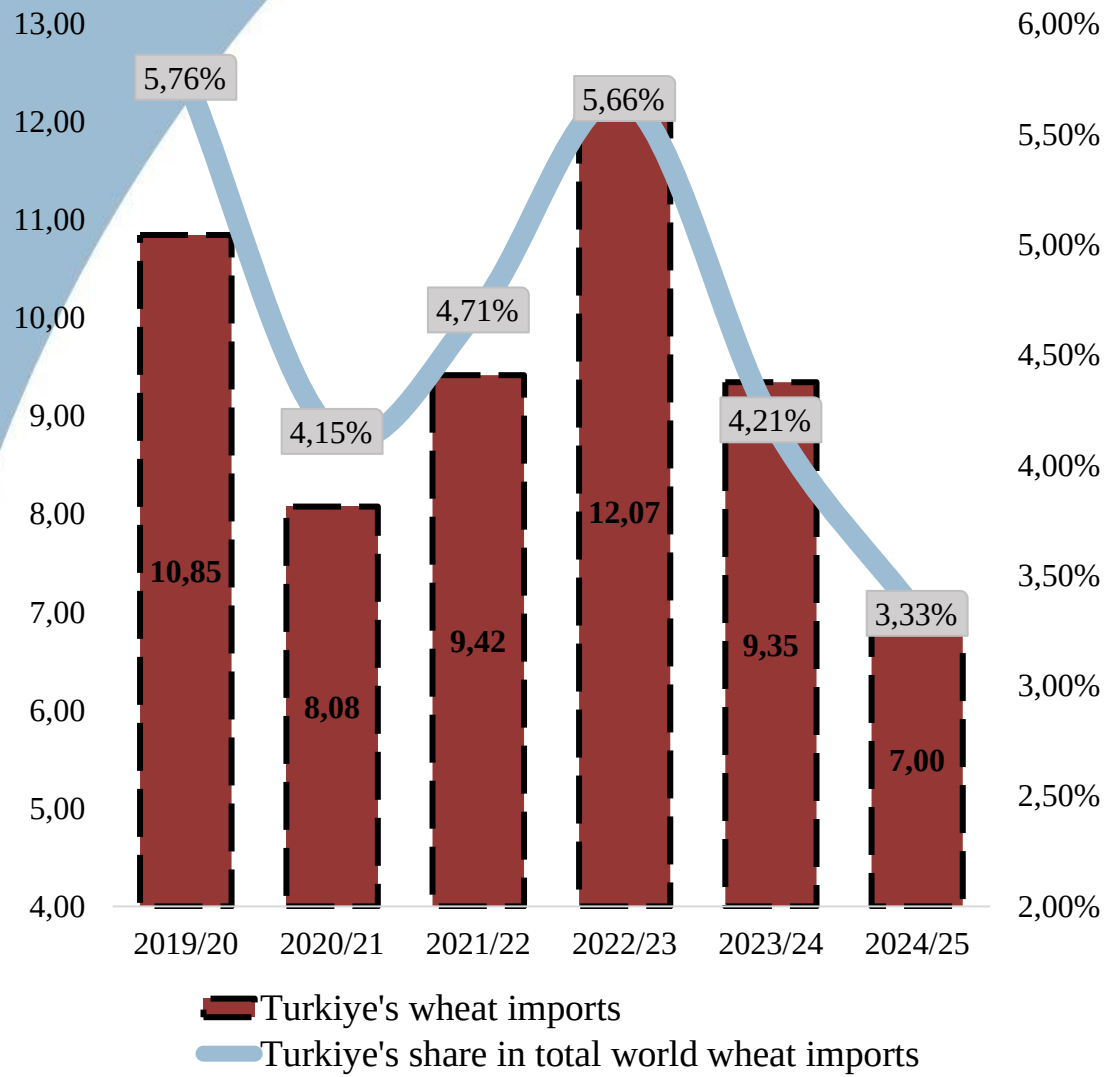


Ratios of Flour Exporters to World Total Value, million $

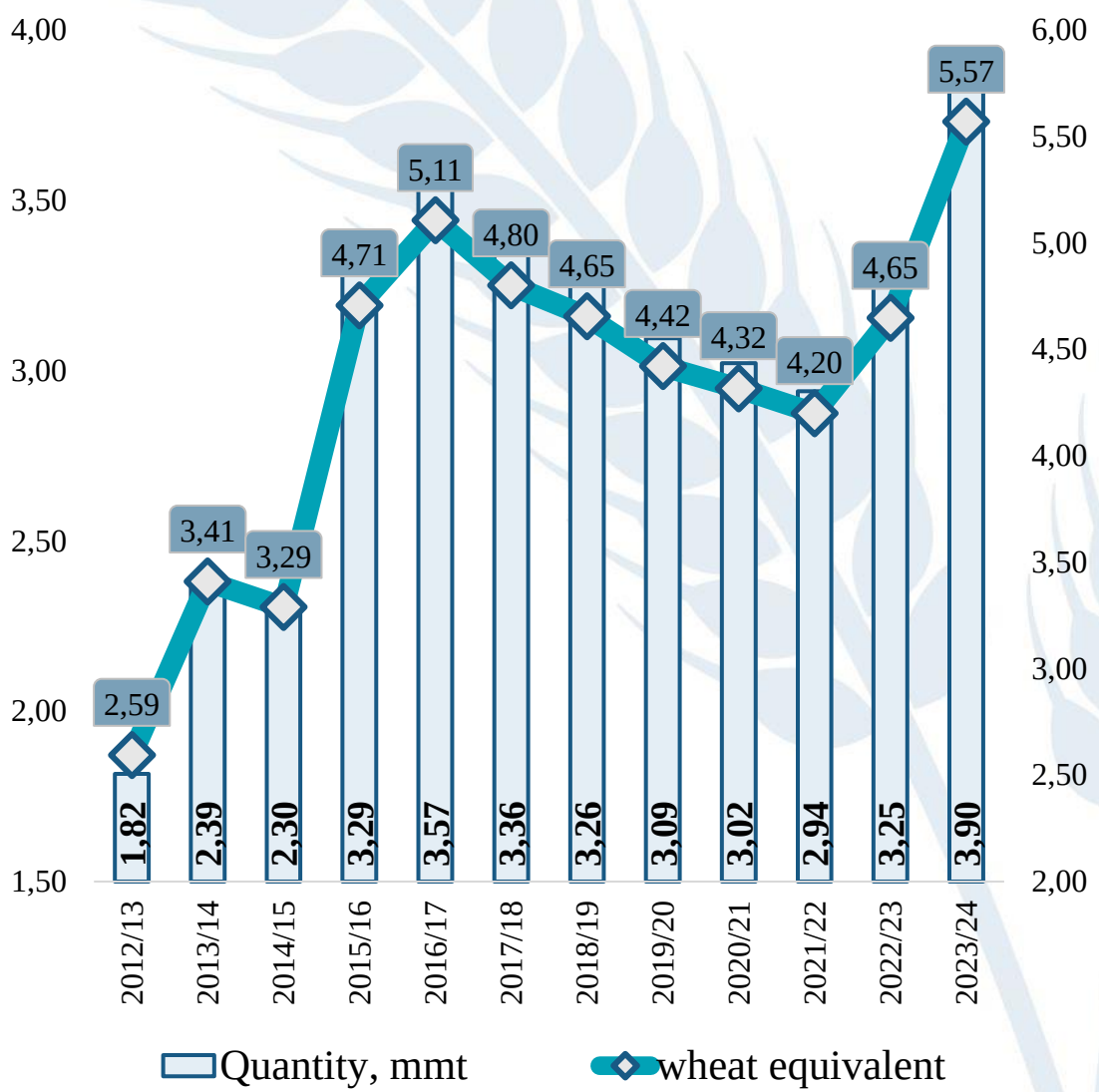


Seasonal Change Wheat/Flour Import Export

Wheat Import (excluding durum), mmt



Wheat Flour Export, mmt



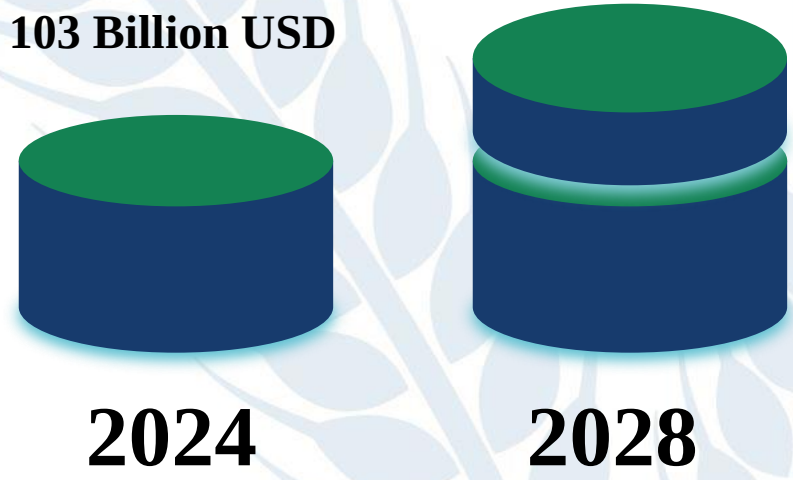
Source: TUIK/USDA

GLOBAL CONSUMER TRENDS EFFECTING MILLING INDUSTRY

Global Wheat Flour & Bakery Product Market

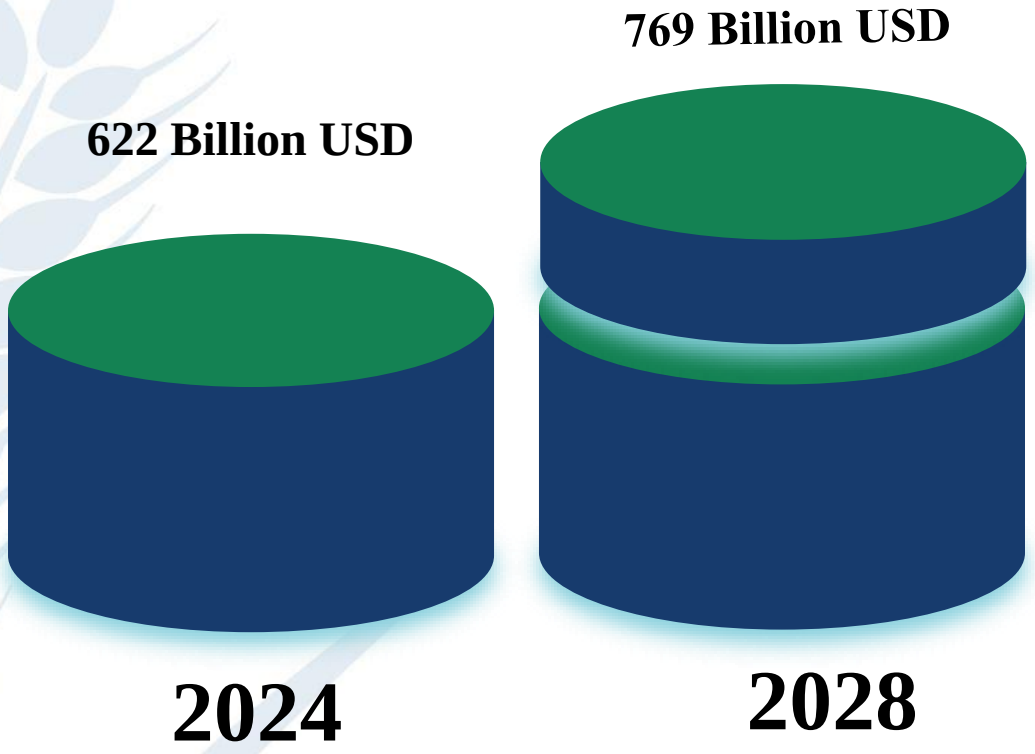
Wheat Flour Market

The market is estimated to grow at a CAGR of 4,7%.



Bakery Product Market

The market is estimated to grow at a CAGR of 5,45%.



Global Market Consumer Trends

Nutritional Diet

Increasing production regarding the impact of nutrition on health has increased the demand for full flour, multiple flour and gluten-free flour products.

Convenience

The demand for ready-to-eat and convenient bakery products such as prepackaged pasta and snacks is increasing.

Innovation

The market has witnessed innovations in flour products with the introduction of new flavor's, shapes and ingredients to meet changing consumer preferences.

Sustainability

Increasing emphasis is being placed on sustainability in the production and packaging of bakery products in order to align them with consumer values.

Innovations in Flour Production

Advanced Techniques in Flour and Baked Products

Alternative Flour Sources

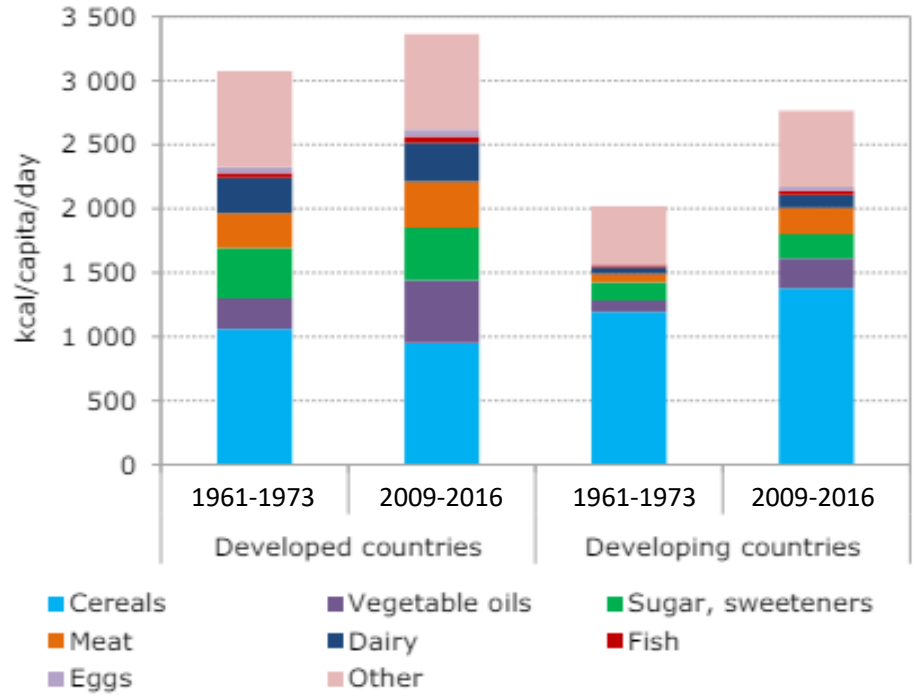
Sustainable Milling Practices

Traceability and Quality Control

How have consumer trends evolved over the past 50 years?

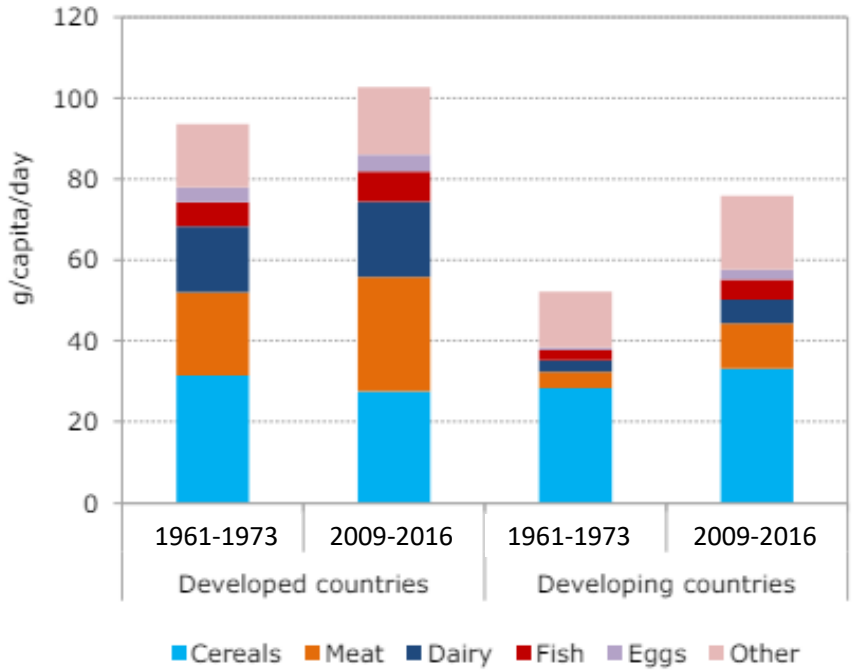
Changes in per capita calorie / protein availability in developed and developing countries

Calorie



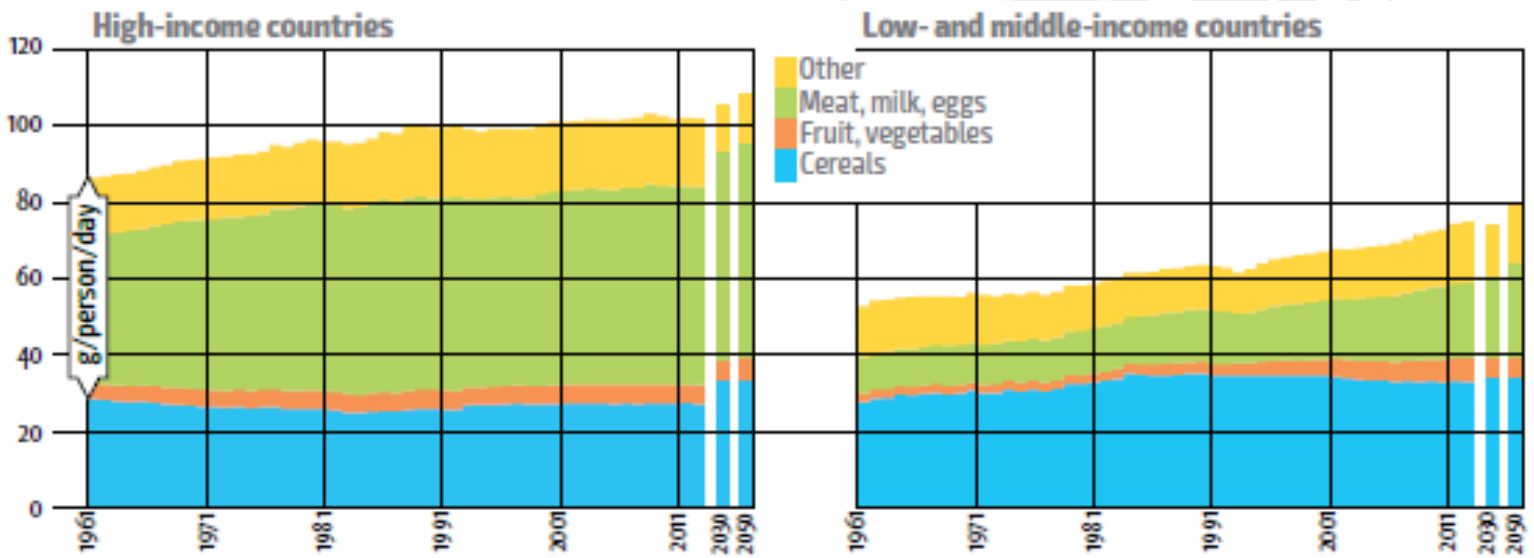
Source: DG Agriculture and Rural Development based on data from FAO (Faostat).

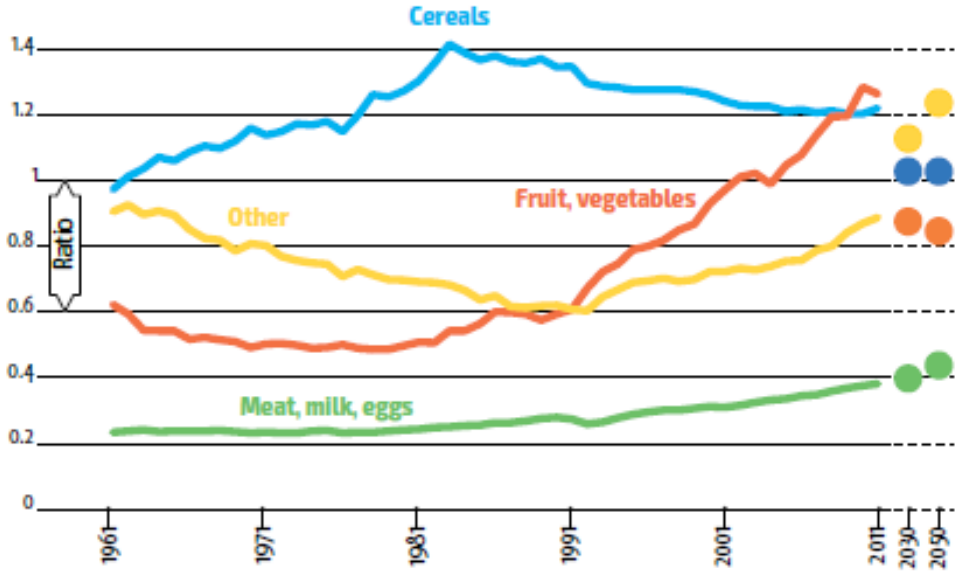
Protein



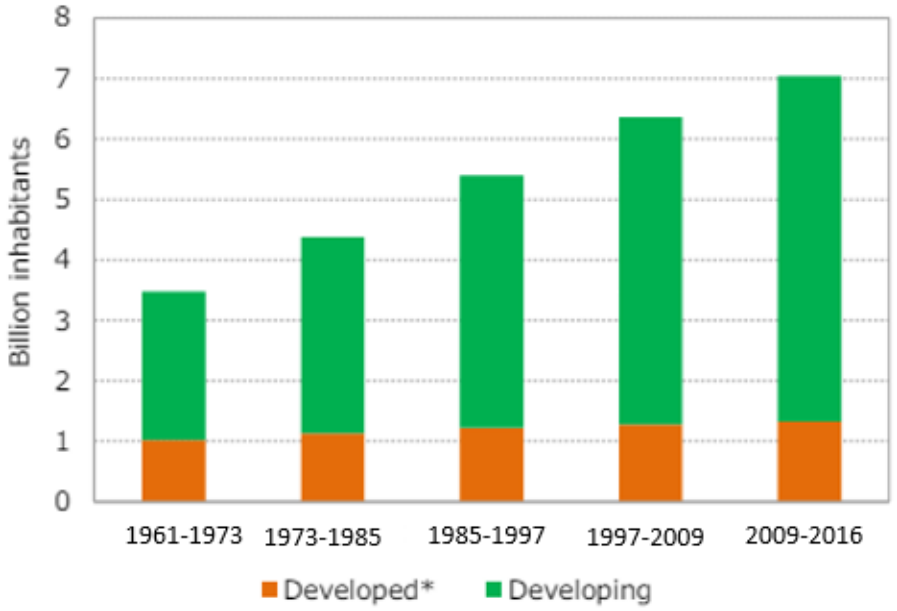
Source: DG Agriculture and Rural Development based on data from FAO (Faostat).

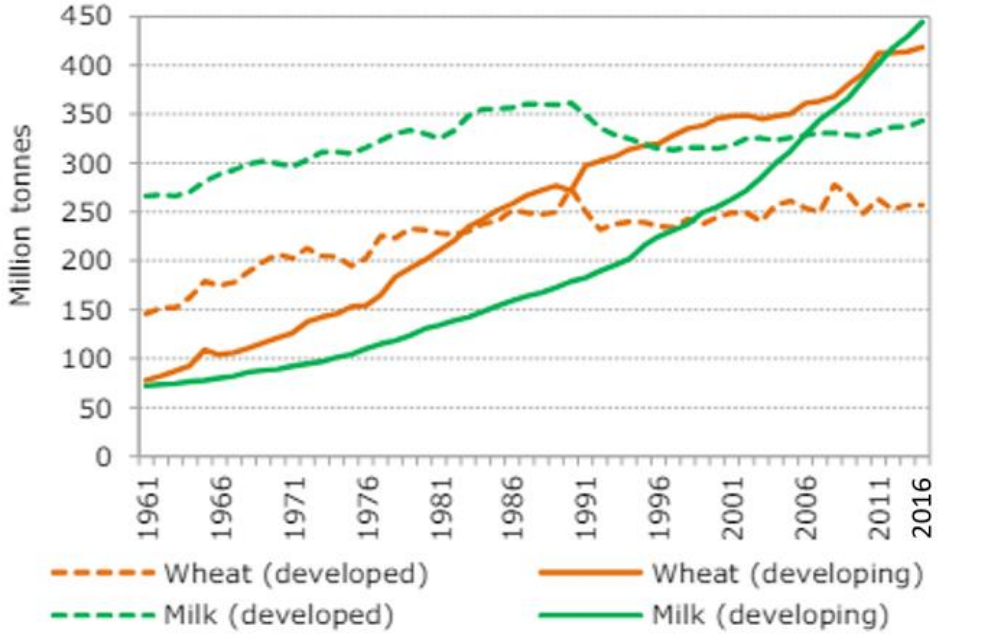
Per Capita Protein Intake By Source, In Accordance To Income Levels (1961-2050)





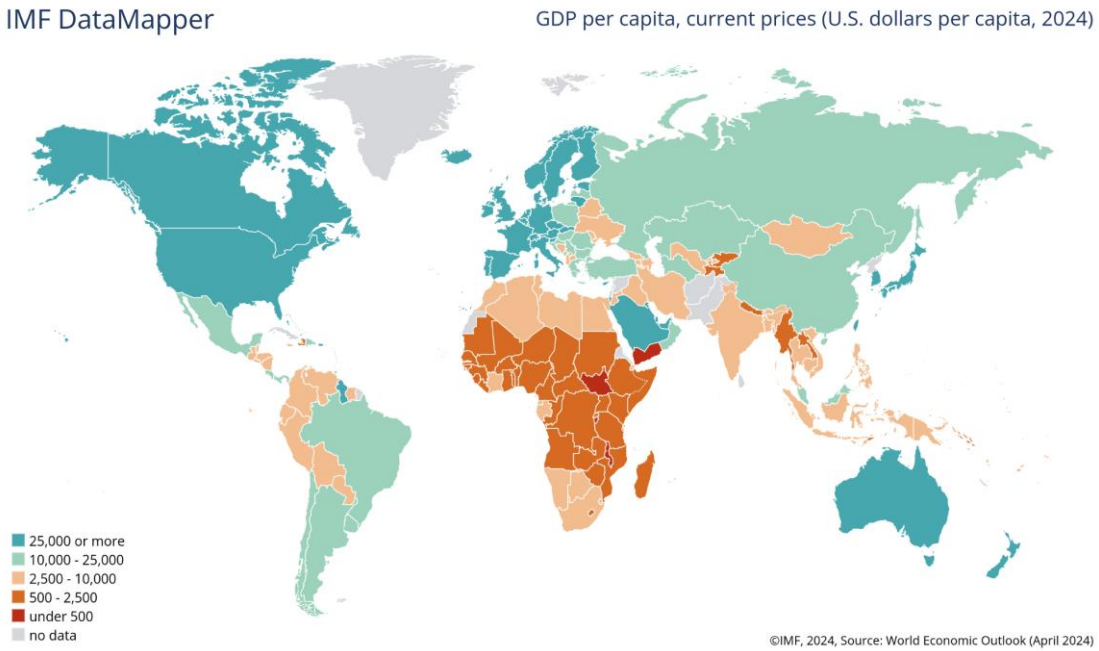
Calorie Intake Sources in Relation to World Population Growth According to Development Level

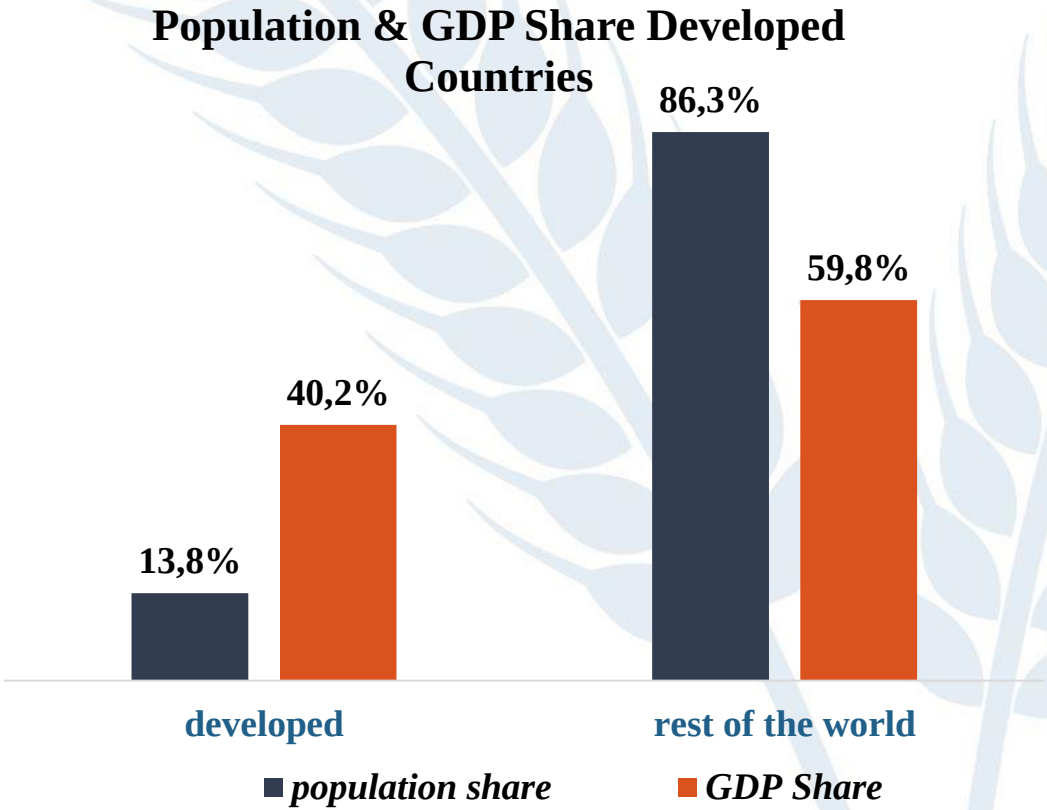




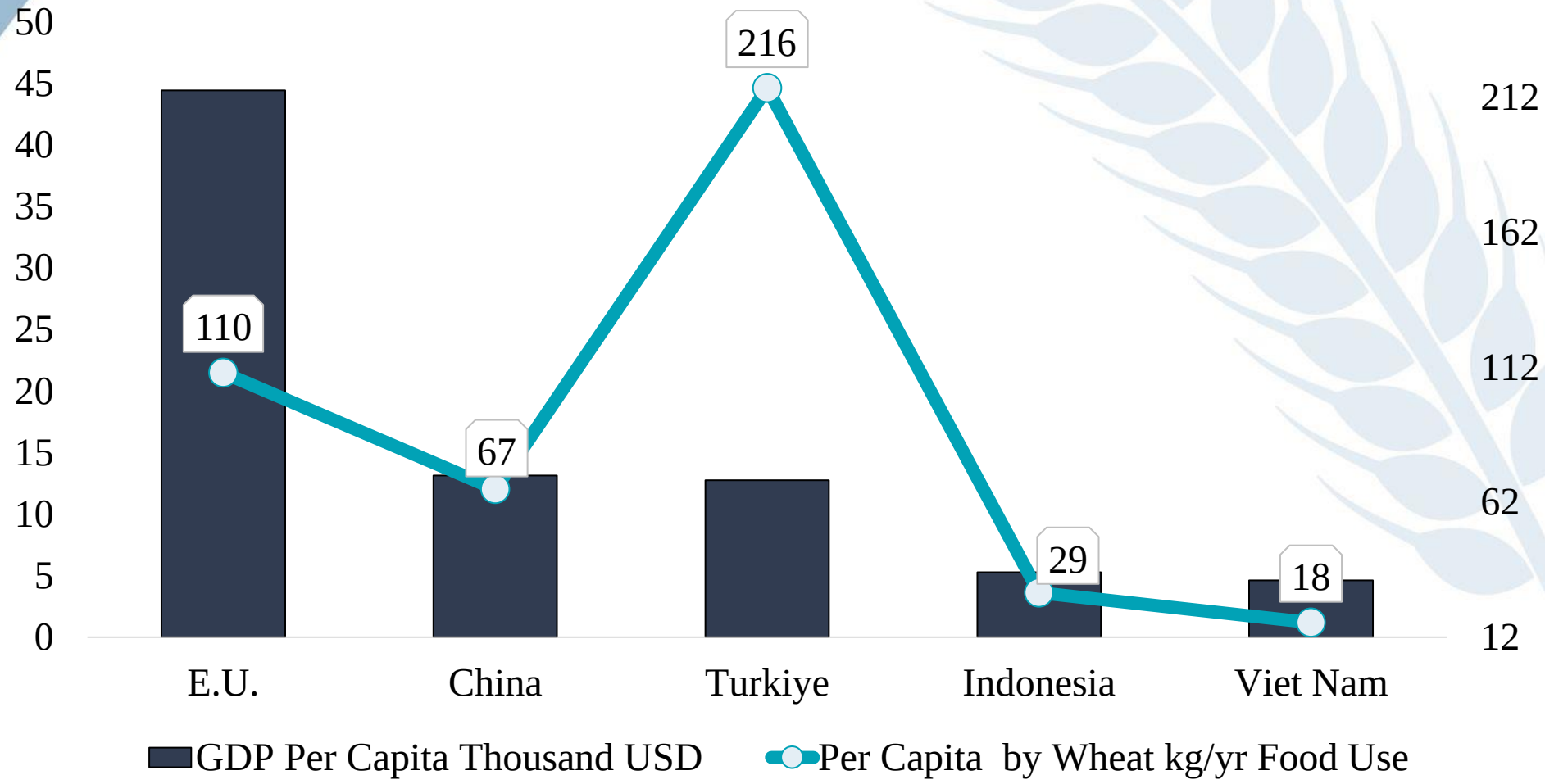
Share in total calorie intake	Average Quantity				
	1961-1973	1973-1985	1985-1997	1997-2009	2009-2016
Cereals (%)	49,8	50,2	50,2	47,3	45,4
Vegetable Oil (%)	5,7	7,0	8,4	9,2	9,7
Meat (%)	5,5	6,0	6,8	7,6	8,0
Dairy (%)	5,1	4,7	4,5	4,6	4,8
Fish (%)	0,8	0,9	1,0	1,1	1,2
Eggs (%)	0,8	0,9	1,0	1,2	1,2
Sugar and sweetners (%)	9,0	9,3	8,8	8,4	8,0

Global Population Distribution by Country Development Levels

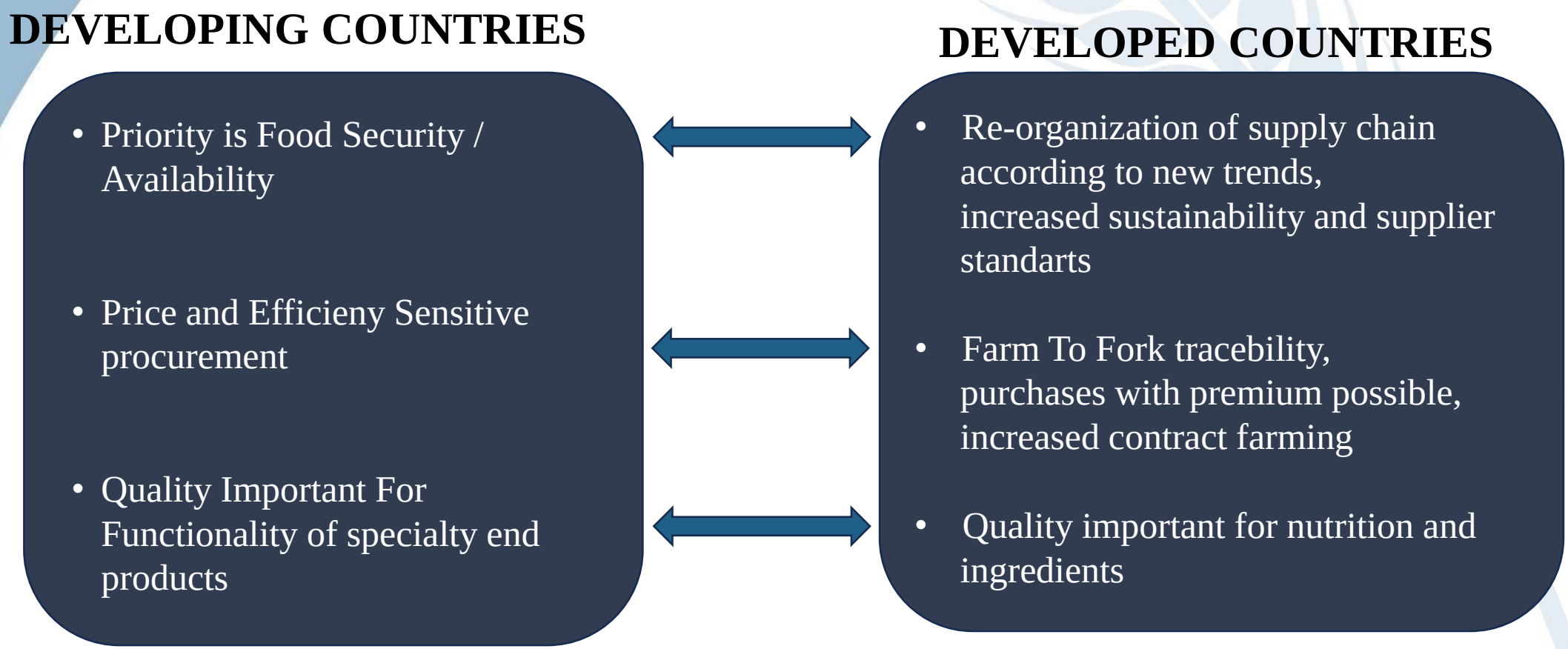




The relation between income and wheat products consumption per capita



New Consumer Trends Impact on sourcing in Milling Industry



The Concept of ‘Food Sustainability’

The Concept of ‘Food Sustainability’

The Interconnectedness in Relation to Food Sustainability

Food health aligns with sustainability by promoting diets that are both nutritious and have a lower environmental impact (e.g., plant-based diets, whole foods, less processed food).

Food security ensures that sustainable food systems are equitable, providing access to healthy, safe, and affordable food for all, now and in the future.

Food safety ensures that food from sustainable systems is not only produced ethically and ecologically but also maintains a high standard of consumer safety, reducing risks from contamination or harmful additives.

In a sustainable food system, these elements work together to ensure that food is produced in a way that maintains the health of people and the planet, guarantees food security for all, and keeps food safe for consumption at every stage of the supply chain.

Food Health and Food Sustainability

Food health refers to the nutritional quality of food and its impact on human well-being. It focuses on providing balanced, nutritious meals that support a healthy lifestyle.

In the context of **food sustainability**, promoting healthy food choices often goes hand-in-hand with environmental sustainability.

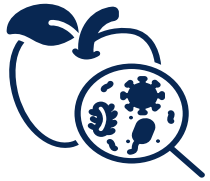
For instance, plant-based diets, which have lower environmental impacts, are often healthier due to their lower levels of saturated fats and higher amounts of fiber and nutrients.

Sustainable farming practices that focus on **soil health, biodiversity, and natural inputs** can lead to **healthier, more nutrient-dense foods**.

IF NOT !
Conversely, intensive, unsustainable farming practices can degrade soil and reduce the nutritional quality of crops over time.

Food Safety and Food Sustainability

Food safety focuses on ensuring that food is free from contaminants and is safe to consume. This includes proper handling, storage, and preparation to avoid foodborne illnesses.



Food sustainability is concerned with reducing waste and harmful practices throughout the food system. In sustainable food systems, food safety is a key factor.

For example, the use of fewer chemical pesticides in sustainable farming reduces the risk of harmful residues in food. Sustainable practices also prioritize safer production methods, ensuring the health of workers and consumers, such as reducing antibiotic use in livestock, which is linked to foodborne illnesses and antimicrobial resistance.

IF NOT !
Reducing food waste aligns with both safety and sustainability because food that is discarded improperly can pose environmental and health risks.

Food Security and Food Sustainability

Food security means that all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs for an active and healthy life.

Food sustainability aims to ensure long-term food security by building a food system that is resilient to environmental changes (such as climate change) and reducing resource depletion. A sustainable food system ensures that future generations will have access to food without depleting the earth's resources.

Practices like **reducing food waste, promoting local food production, and improving the efficiency of food distribution systems** are critical in aligning food security with sustainability goals.

IF NOT !
If food production is not sustainable, future food security will be compromised due to declining soil quality, water shortages, and biodiversity loss.

Food Security

Food security exists when all people at all times have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life. - 1996 World Food Summit

Uncertainity regarding ability to obtain food.

Compromising on food quality and variety.

Reducing food quantity, skipping meals

No food for a day or more

Food Insecurity

Mild Food Insecurity

Modarate Food Insecurity

Insufficient money or resources for a healthy diet

Severe Food Insecurity

Lack of Food

4 Aspects of Food Security

Physical AVAILABILITY of Food

- Food availability addresses the "supply side" of food security and is determined by the level of food production, stock levels and net trade.

Economic and physical ACCESS to food

- An adequate supply of food at the national or international level does not in itself guarantee household level food security.
- Concerns about insufficient food access have resulted in a greater policy focus on incomes, expenditure, markets and prices in achieving food security objectives.

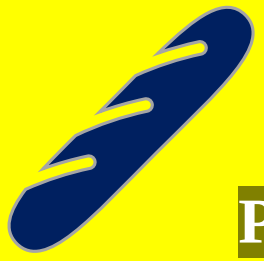
Food UTILIZATION

- Utilization is commonly understood as the way the body makes the most of various nutrients in the food
- Sufficient energy and nutrient intake by individuals is the result of good care and feeding practices, food preparation, diversity of the diet and intra-household distribution of food.

STABILITY of the other three dimensions over time

- Even if your food intake is adequate today, you are still considered to be food insecure if you have inadequate access to food on a periodic basis, risking a deterioration of your nutritional status.
- Adverse weather aditions, political instability, or economic factors (unemployment, rising food prices) may have af impact on your food security status.

Global Report on Food Crisis 2023



238 Million

Phase 3 In 2023, people in 48 countries faced acute food insecurity.

34 Million

Phase 4 In 2023, people in 45 countries faced an emergency situation.

130 Thousand

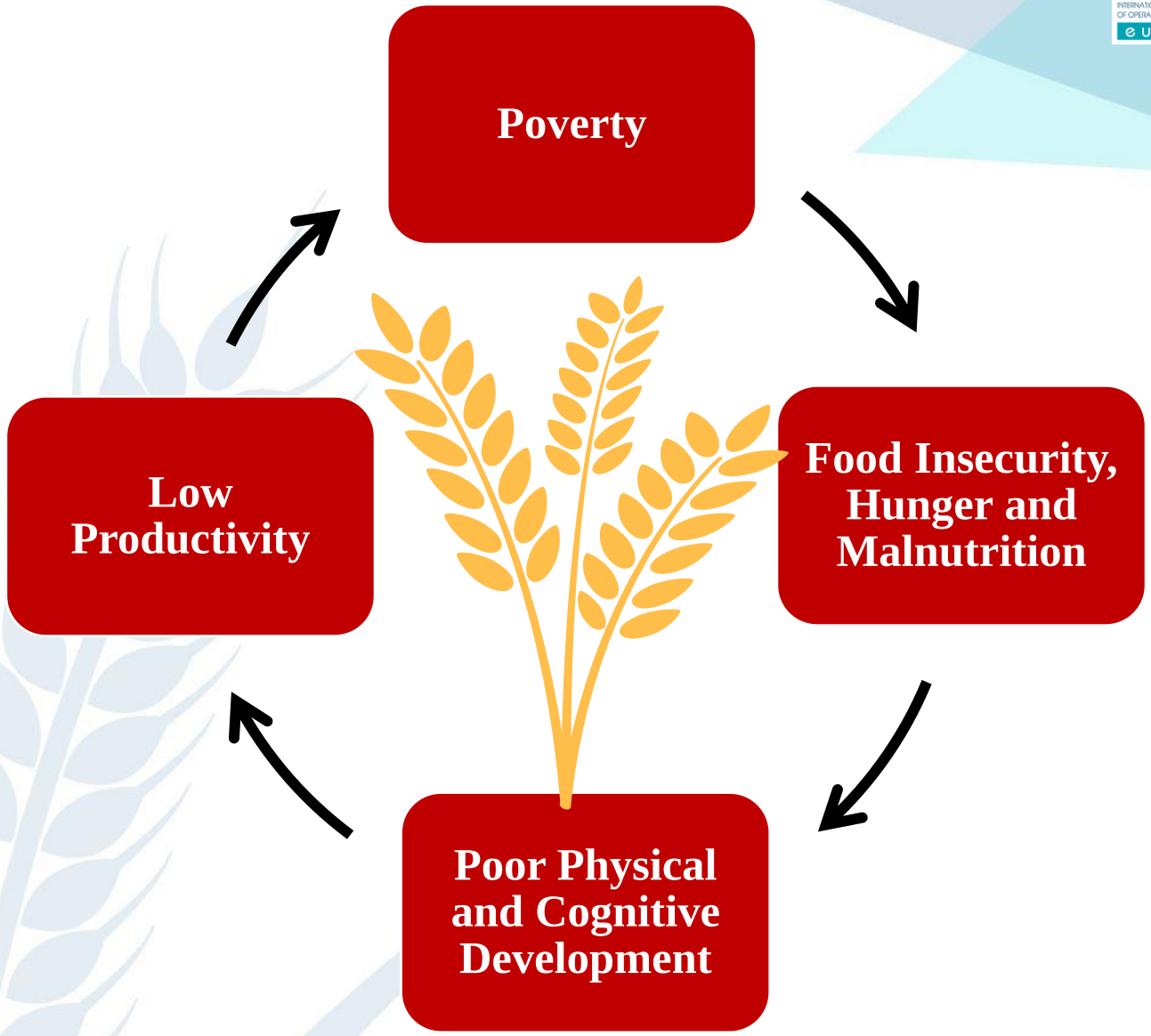
Phase 5 In 2023, people faced life-threatening famine.

Source FAO

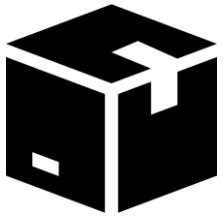
The Role of the Food Industry

“Poverty encompasses the different dimensions of deprivation related to human capabilities, including consumption and food security, health, education, rights, security, dignity, and decent work.”
- Organisation for Economic Co-operation and Development (OECD)

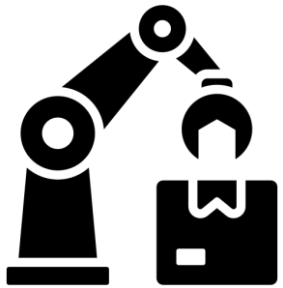
It is argued that a strategy to address poverty, combined with policies to ensure food security, offers the best hope for rapidly reducing mass poverty and hunger. However, recent research shows that economic growth alone cannot solve the issue of food security. What is needed is a combination of income growth, supported by direct nutritional interventions, along with investments in health, water, and education.



As Millers, We Are Responsible from Field to Fork



Logistics, Storage, Quality and Condition Maintenance



Production Efficiency, Waste Reduction

Packaging, Distribution (Cold Chain)

Ensuring the Product Reaches the Table Safely

Food Sustainability

When sustainability is profitable, it will create impact at global scale

Sustainability Initiatives

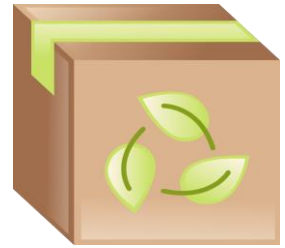
Sustainable Raw Material Supply:
Local and Regenerative Agriculture
Certified Grains

Energy Efficient Production:
Energy-Efficient Equipment
Renewable Energy

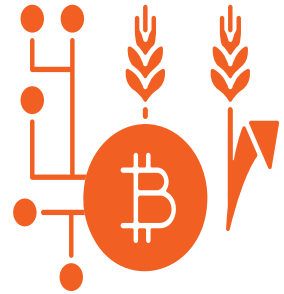
Reducing Water Usage &
Reducing Carbon Footprint

Waste Reduction and Recycling:
Zero Waste Initiatives
Reducing Food Waste

Eco-Friendly Packaging:
Sustainable Packaging Materials
Reduced Packaging



Supply Chain Transparency:
Blockchain Technology
Fair Trade and Ethical Sourcing



Millers' Perspectives on Sustainability: Profitability as a Key Driver

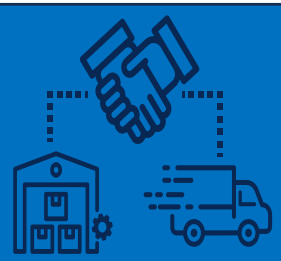
Profitability through Sustainability

Operational Efficiency and Cost Reduction

Energy efficiency measures, such as smart sensors and renewable energy can quickly reduce costs and offer long-term savings.

Productivity and Yield Improvements

Tech upgrades that enhance quality, cut waste, or optimize processes boost profitability by increasing productivity and reducing costs.



Supply Chain Optimization

Collaborating on sustainability with suppliers reduces emissions, cuts costs, and strengthens the supply chain through better logistics and local sourcing.

Market Differentiation and Premium Pricing

As consumers prioritize sustainability, millers who highlight their products' eco-friendly attributes can command higher prices and gain market share.

Millers' Perspectives on Sustainability: Profitability as a Key Driver

Strategic Investment in Sustainability

Renewable Energy Integration

Shifting to renewable energy sources, such as solar or wind power, not only reduces emissions but also insulates companies from volatile fossil fuel prices, enhancing financial stability.

Circular Economy and Waste Minimization

Embracing circular economy principles, such as recycling by-products and reducing packaging waste, can create new revenue streams. For instance, using wheat bran or other milling by-products in animal feed or other applications adds value and reduces waste disposal costs.

Sustainability as Competitive Edge

Sustainability as a Strategy

Emphasizing sustainability as an integral part of business strategy rather than just a compliance requirement

Profitability and Competitive Advantage

Positioning sustainability as a way to drive profitability, competitive edge, and resilience, beyond mere regulatory adherence.

Regulatory and Market Forces

Recognizing the influence of both regulatory frameworks and market demands in shaping sustainable practices

Meeting Market Demands

Aligning product offerings with consumer expectations for sustainable and eco-friendly products.

CONCLUSION

The milling industry processes over 600 million tonnes of grains each year, playing a key role in global sustainability.

Sustainability initiatives, such as energy efficiency, waste reduction, and supply chain optimization, lower costs, boost productivity, and meet consumer demand for eco-friendly products.

By viewing sustainability as a path to profitability rather than just a compliance requirement, millers can drive business growth, meet evolving regulations, and gain a competitive edge.

When aligned with profitability goals, these initiatives not only support environmental objectives but also create lasting value for businesses, consumers, and the planet.

INTERNATIONAL ASSOCIATION OF OPERATIVE MILLERS
eurasia

Thank You
Təşəkkürlər
Спасибо
Teşekkürler

Dr. Eren Günhan ULUSOY