

Edward Njiru - Data Scientist

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# WHERE IS THE MONEY?



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A Time-Series Analysis on Agricultural  
Commodity Market Volumes and Prices  
in Kenya (Q3/2021 - Q2/2024)

Part I: Seasonal Crops

# INTRO

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Hello! My name is Edward Njiru, and I have been a dairy and fodder farmer in Kenya for the last four years.

Like several farmers, the decision to diversify is not an easy one. There is so much to consider regarding demand and profit margins. So I took a deep-dive into the data.

## Part I: *Seasonal Crops*

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*Edward Njiru - Data Scientist*

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# DATA

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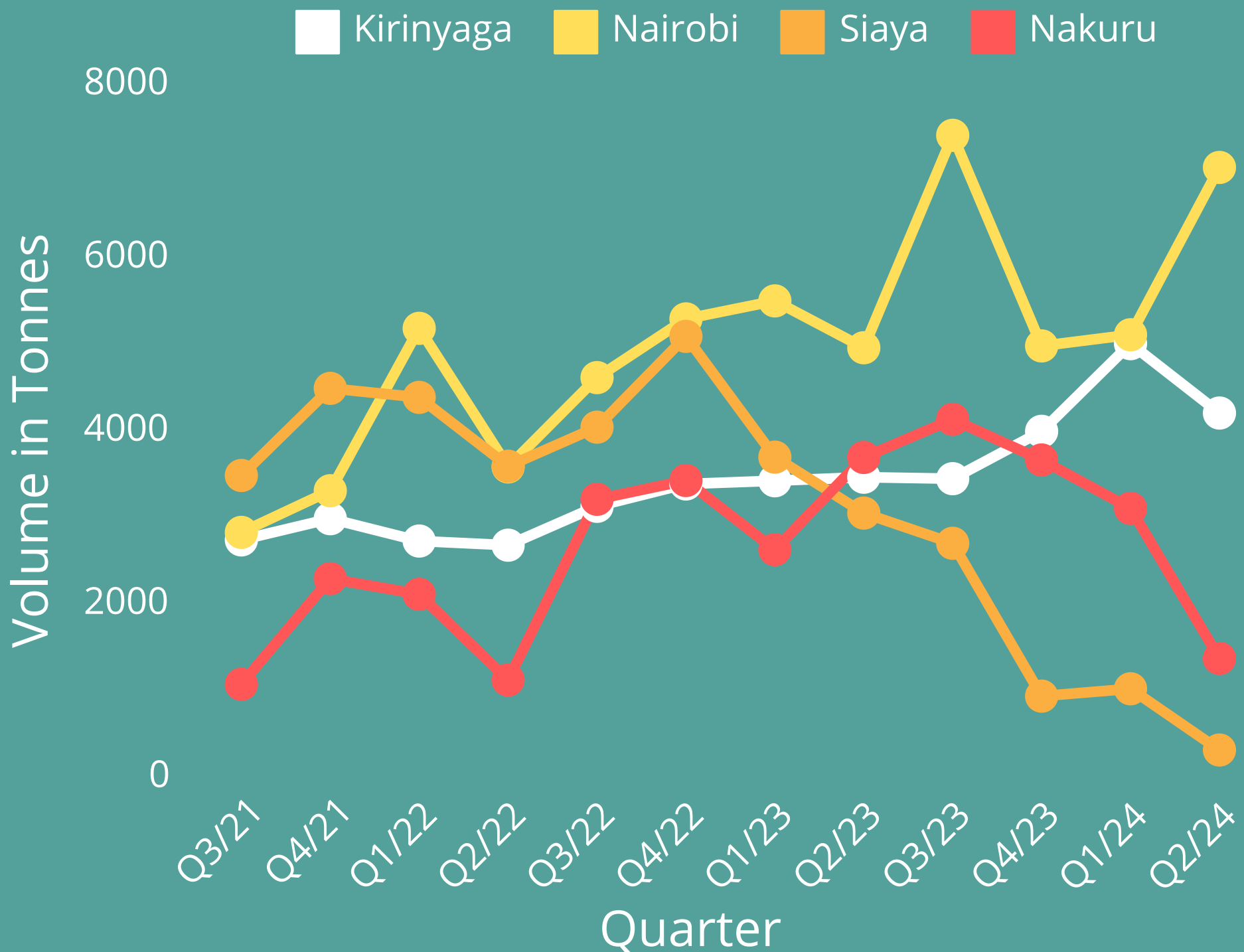
The data was sourced from the Kenya Agricultural Market Information System (KAMIS). The Objective Questions:

1. Where is the demand for commodities?
2. Which commodities are in demand?
3. Which commodities are most profitable?
4. Which profitable commodities are in demand?

# TOP COUNTIES & MARKETS

## DEMAND BY VOLUME IN TONNES

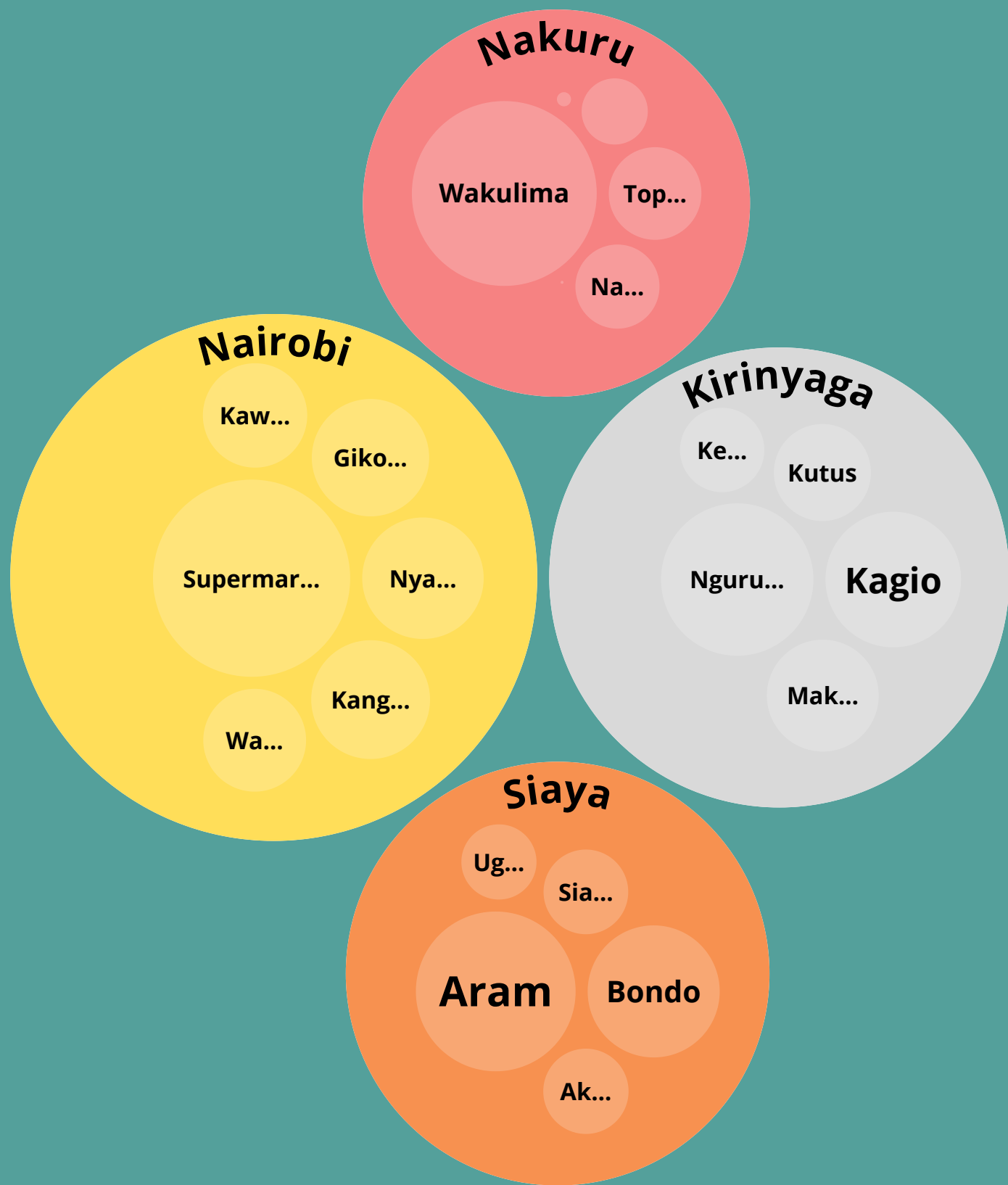
Top 4 counties based on sales volume in markets.



# TOP COUNTIES & MARKETS

## DEMAND BY VOLUME IN TONNES

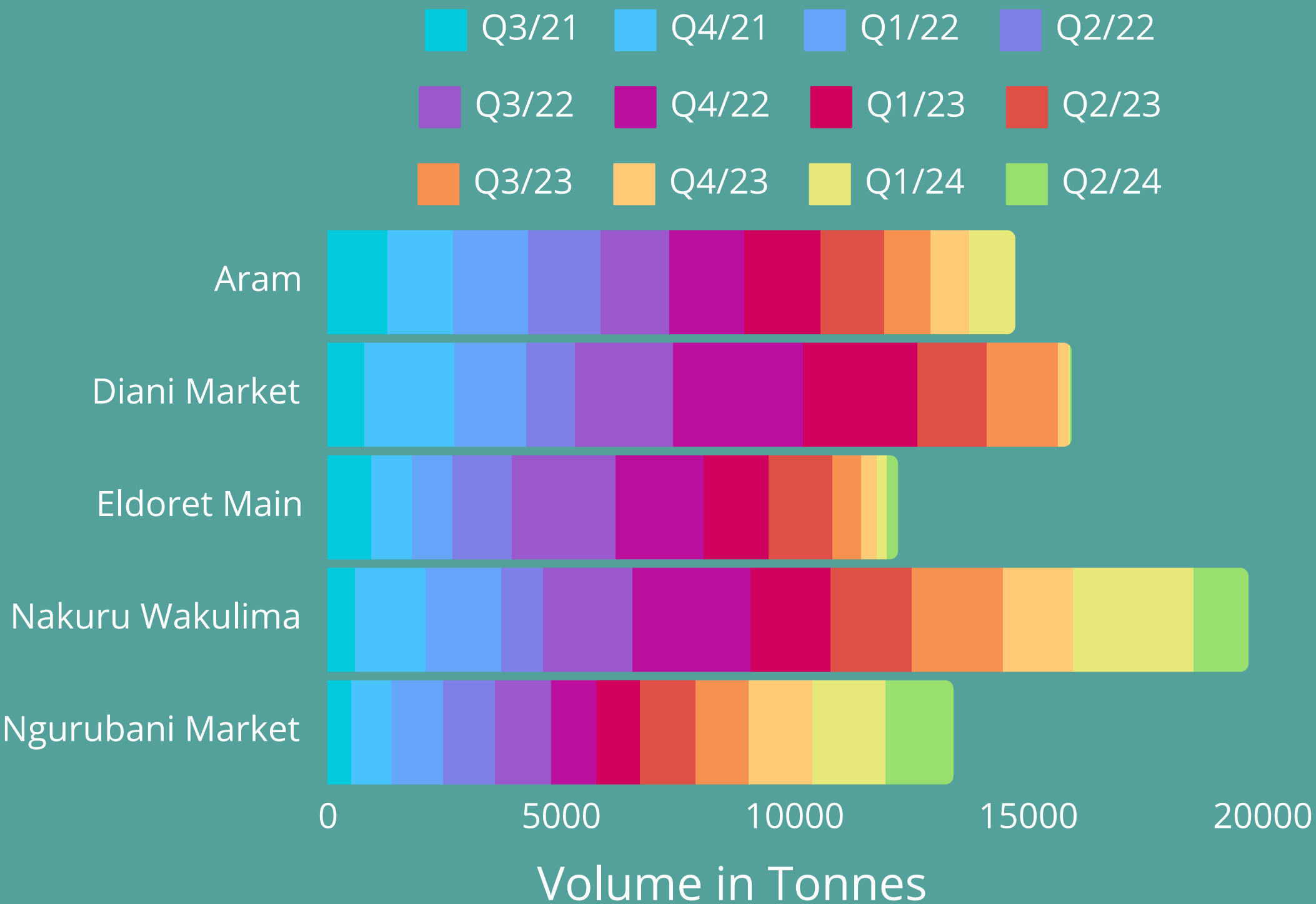
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# TOP COUNTIES & MARKETS

## DEMAND BY VOLUME IN TONNES

Top 5 food markets based on sales volume.

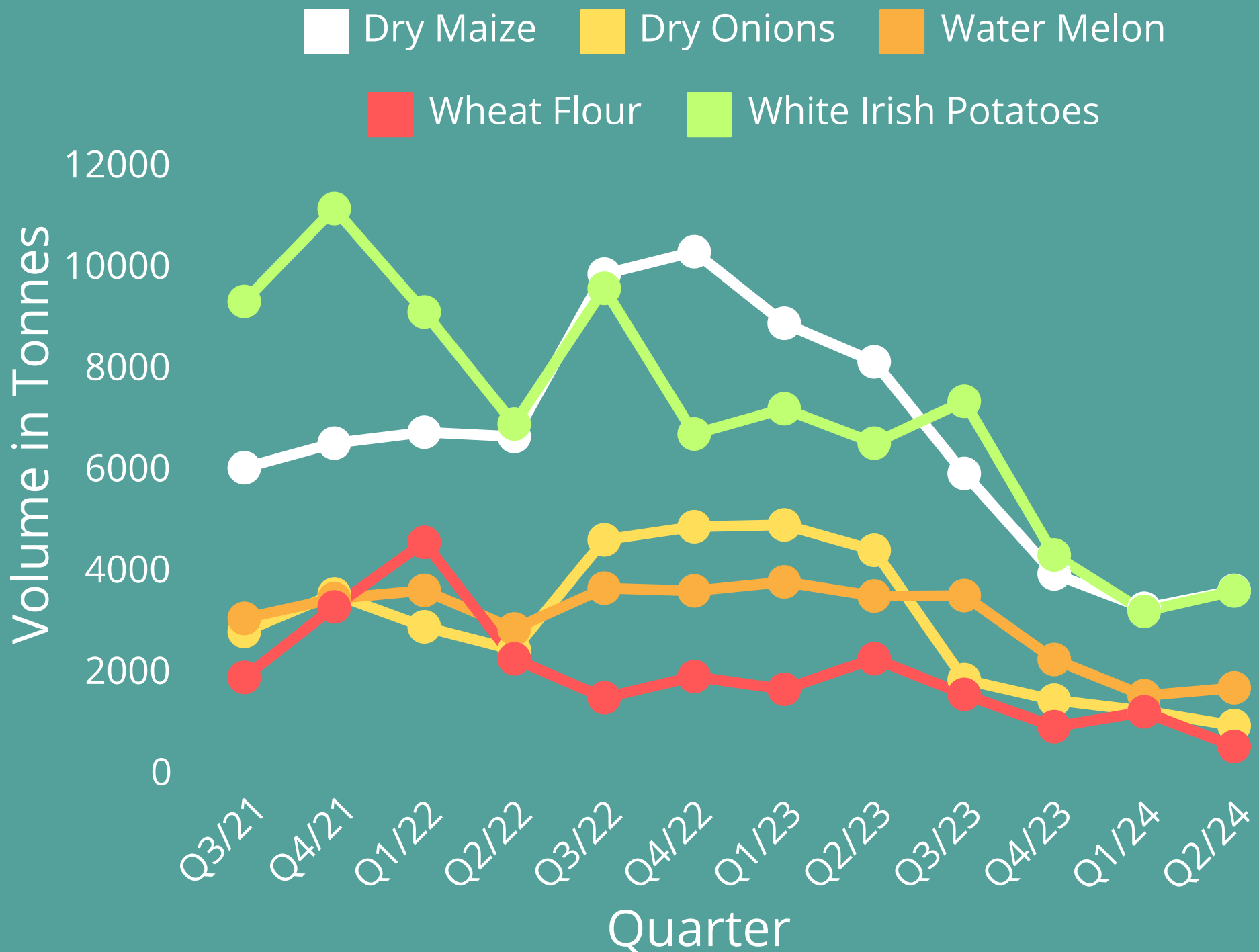




# TOP COMMODITIES

## DEMAND BY VOLUME IN TONNES

Top 5 commodities based on sales volume in markets.

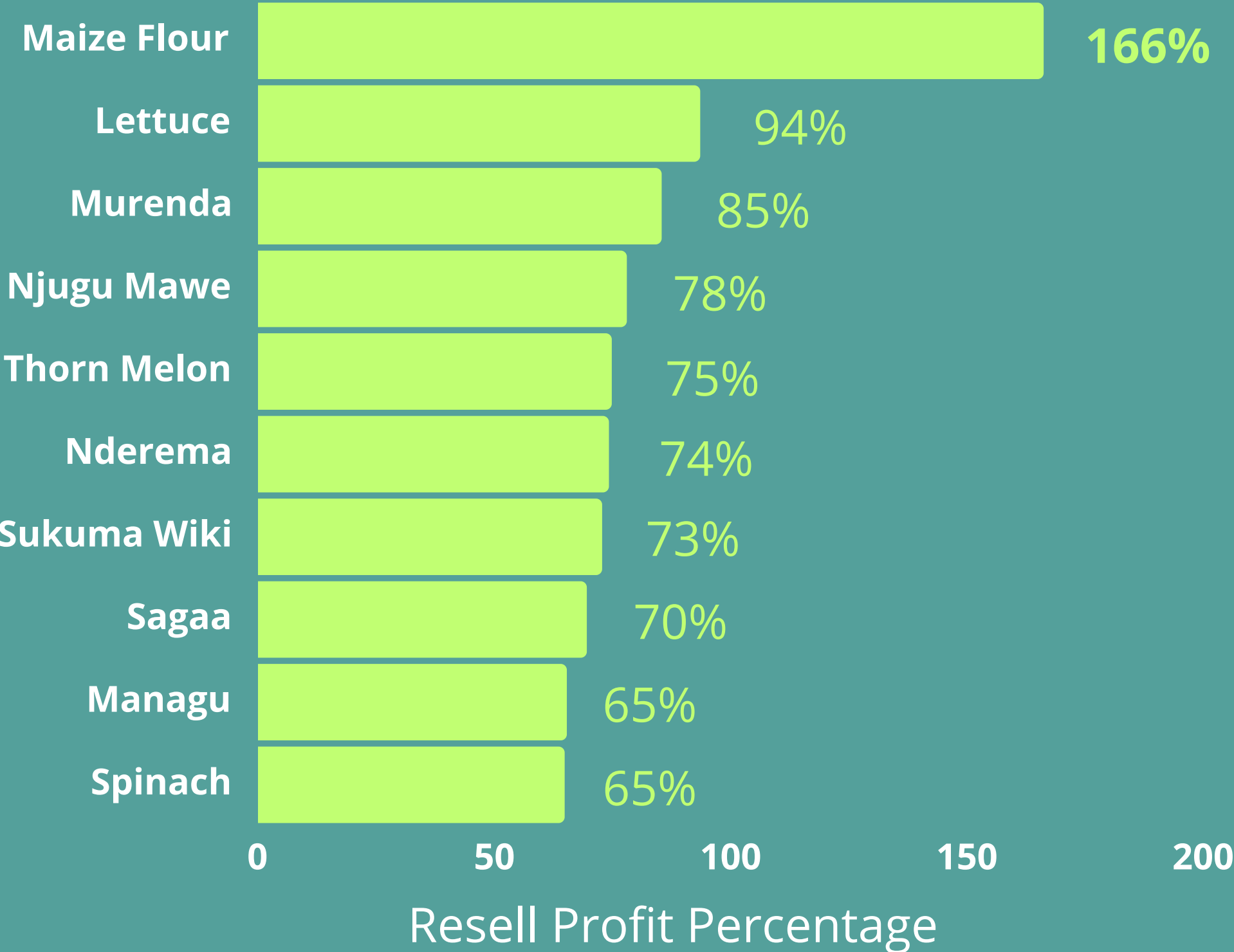


# TOP COMMODITIES

## AVERAGE RESELL PROFIT %

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Most profitable commodities for resell.



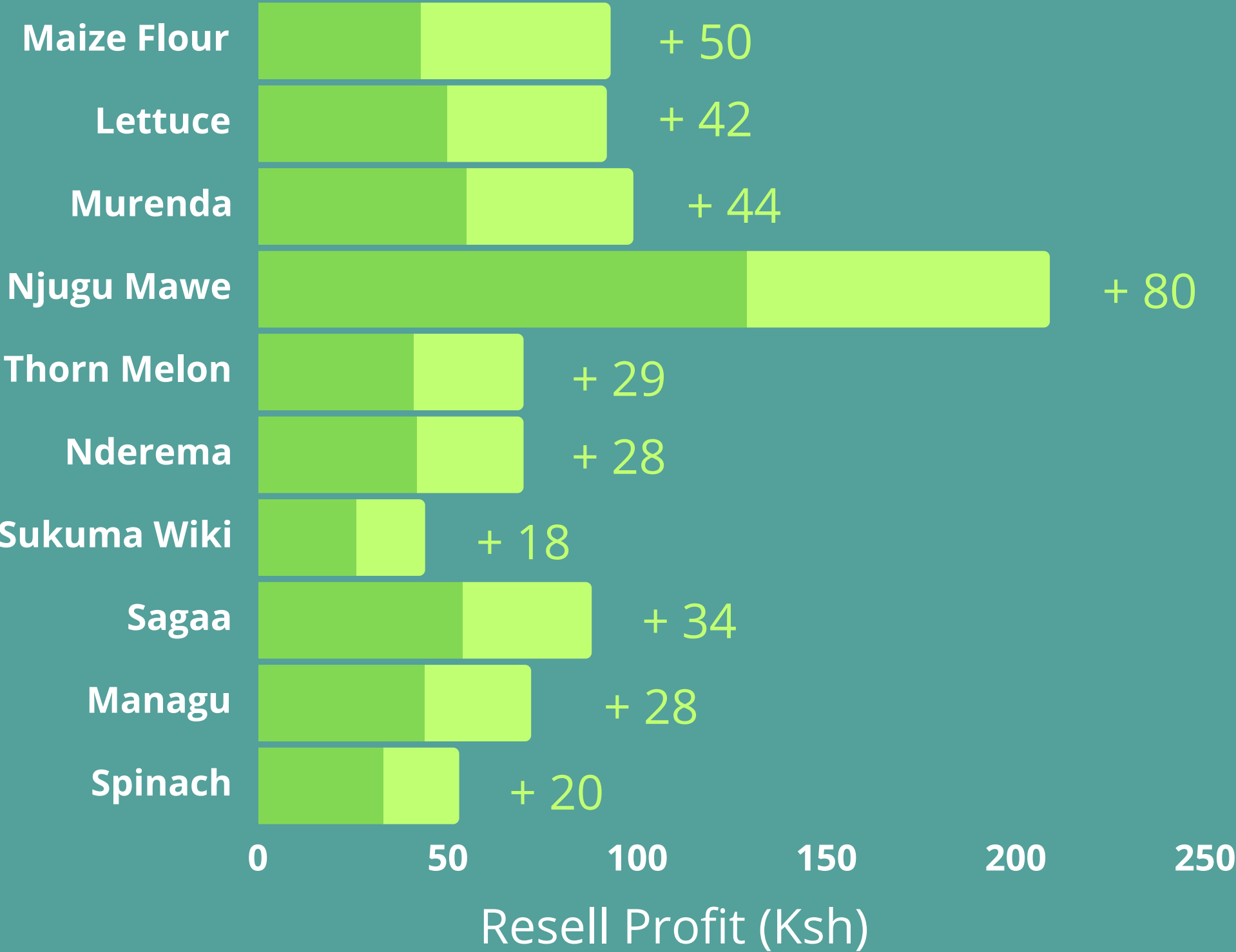


# TOP COMMODITIES

## AVERAGE RESELL PROFIT MARGINS

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Most profitable commodities for resell.



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It is expected that niche crops have excellent margins.

As a farmer, I would want to know which commodities have **high demand** **AND** **good profit margins**.

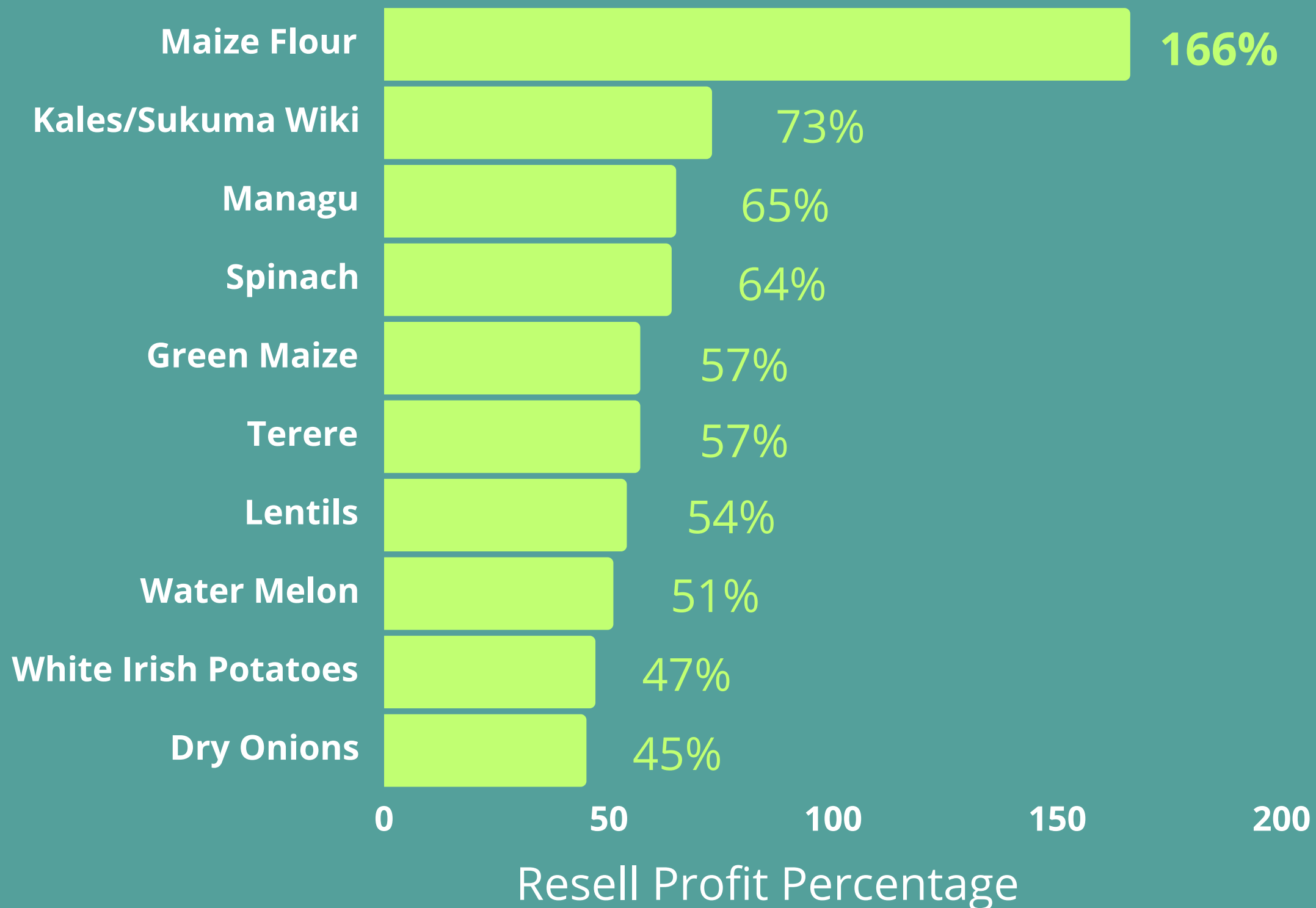
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# TOP COMMODITIES

HIGH DEMAND COMMODITIES WITH  
HIGH PROFIT MARGINS

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# TOP COMMODITIES

TOP 20 HIGH DEMAND COMMODITIES  
WITH HIGH PROFIT % MARGINS

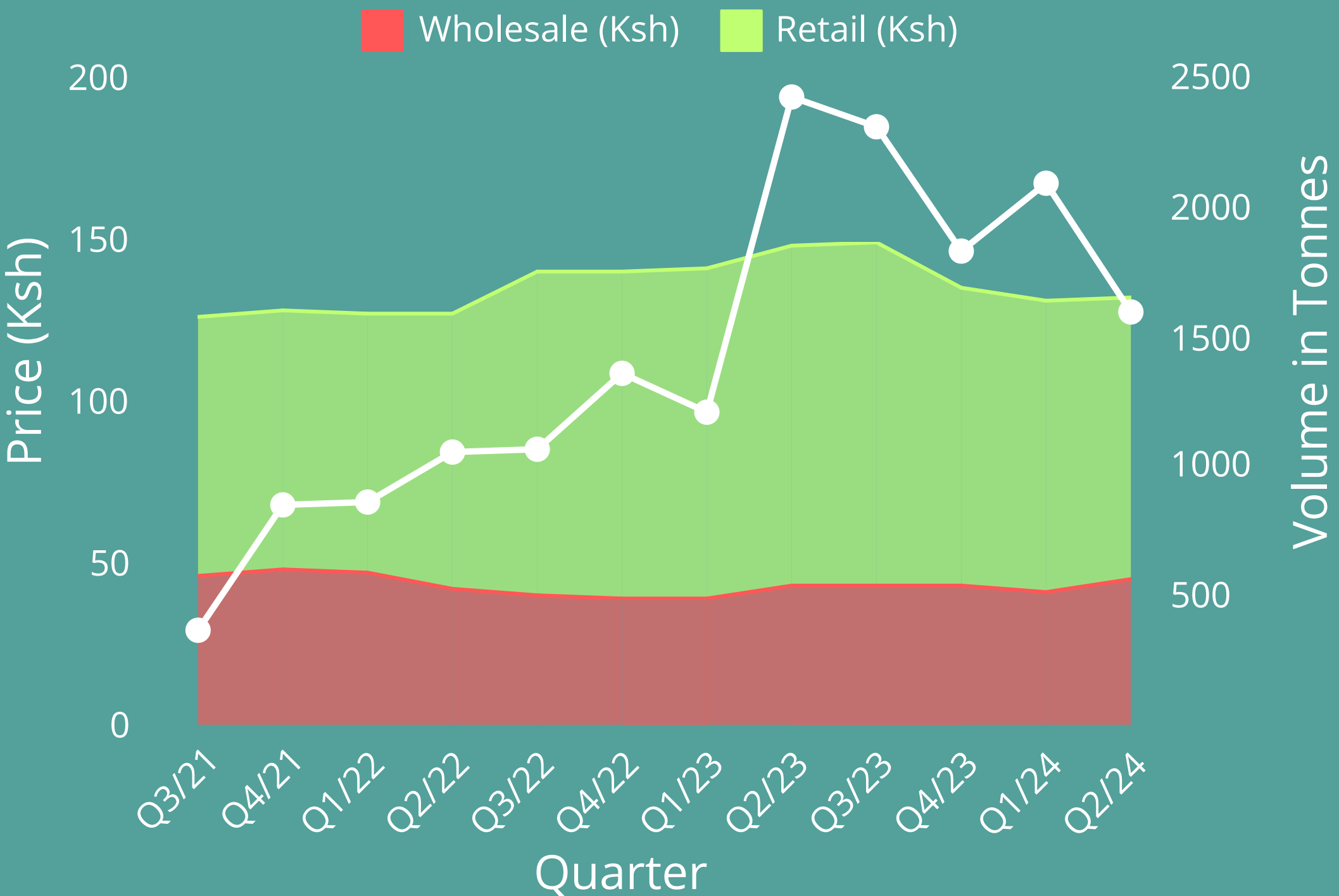
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# HIGH-DEMAND | HIGH-PROFIT

## MAIZE FLOUR

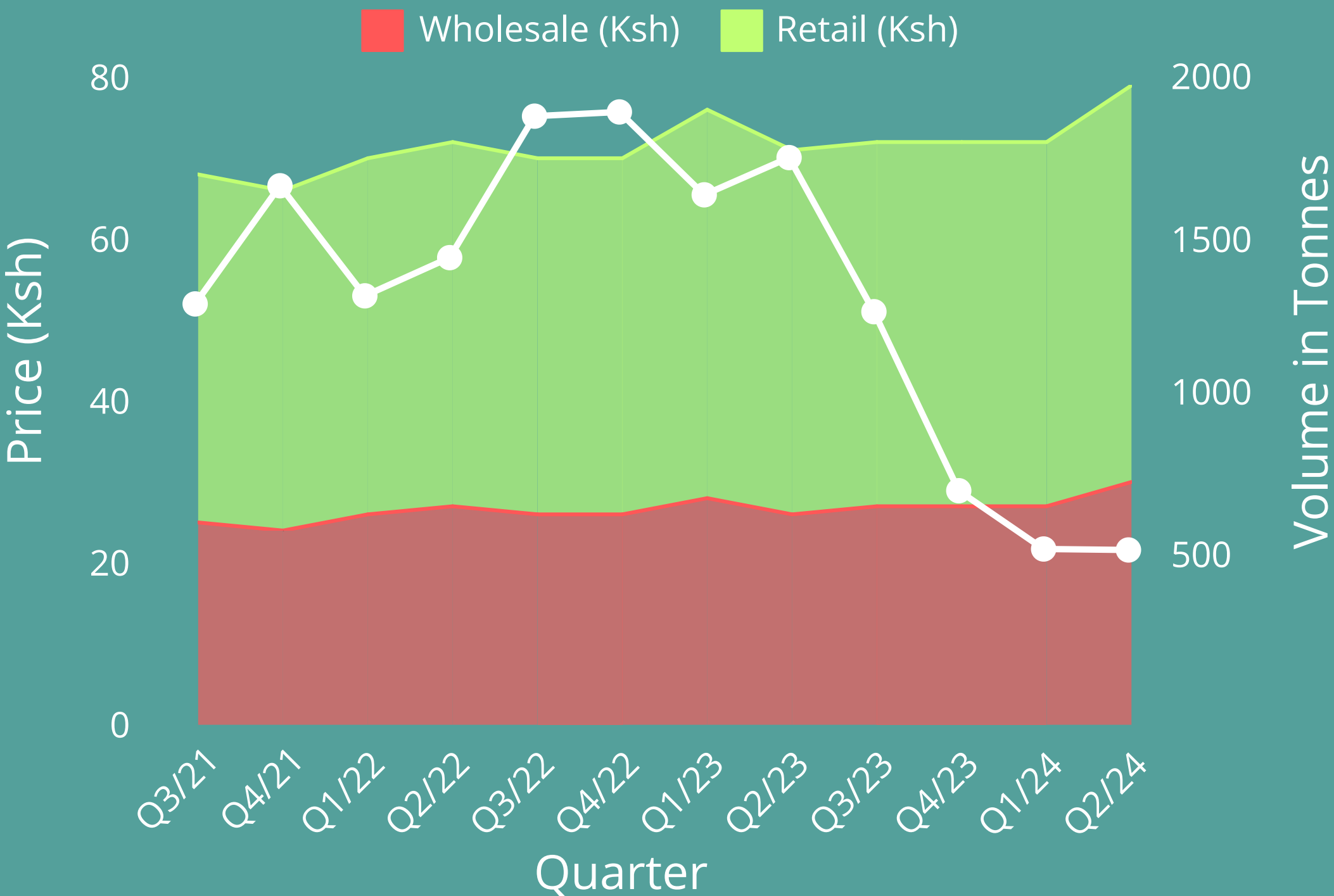
Commodity Pricing Time-Series Analysis



# HIGH-DEMAND | HIGH-PROFIT

## KALES / SUKUMA WIKI

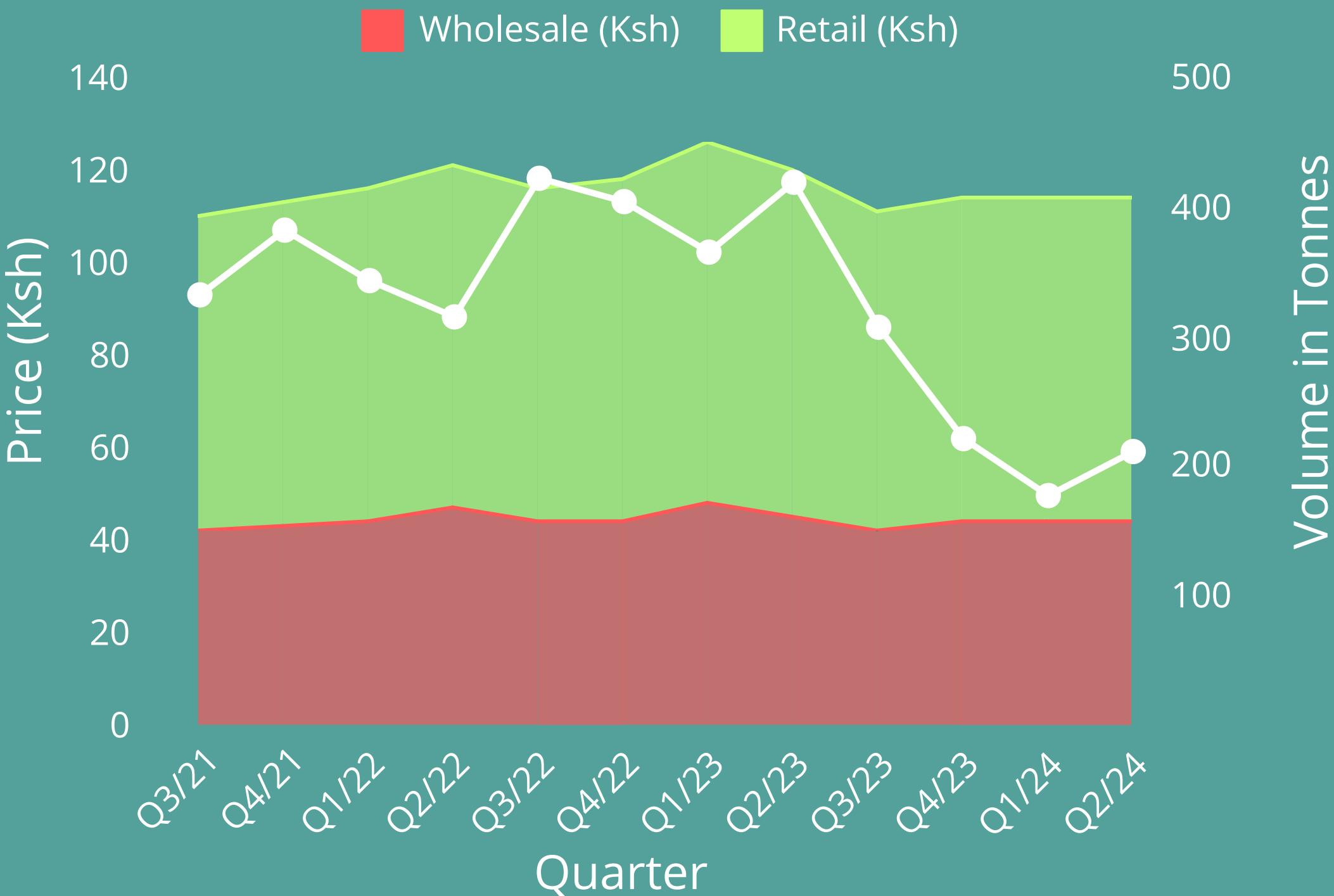
Commodity Pricing Time-Series Analysis



# HIGH-DEMAND | HIGH-PROFIT

## BLACK NIGHTSHADE / MANAGU

Commodity Pricing Time-Series Analysis

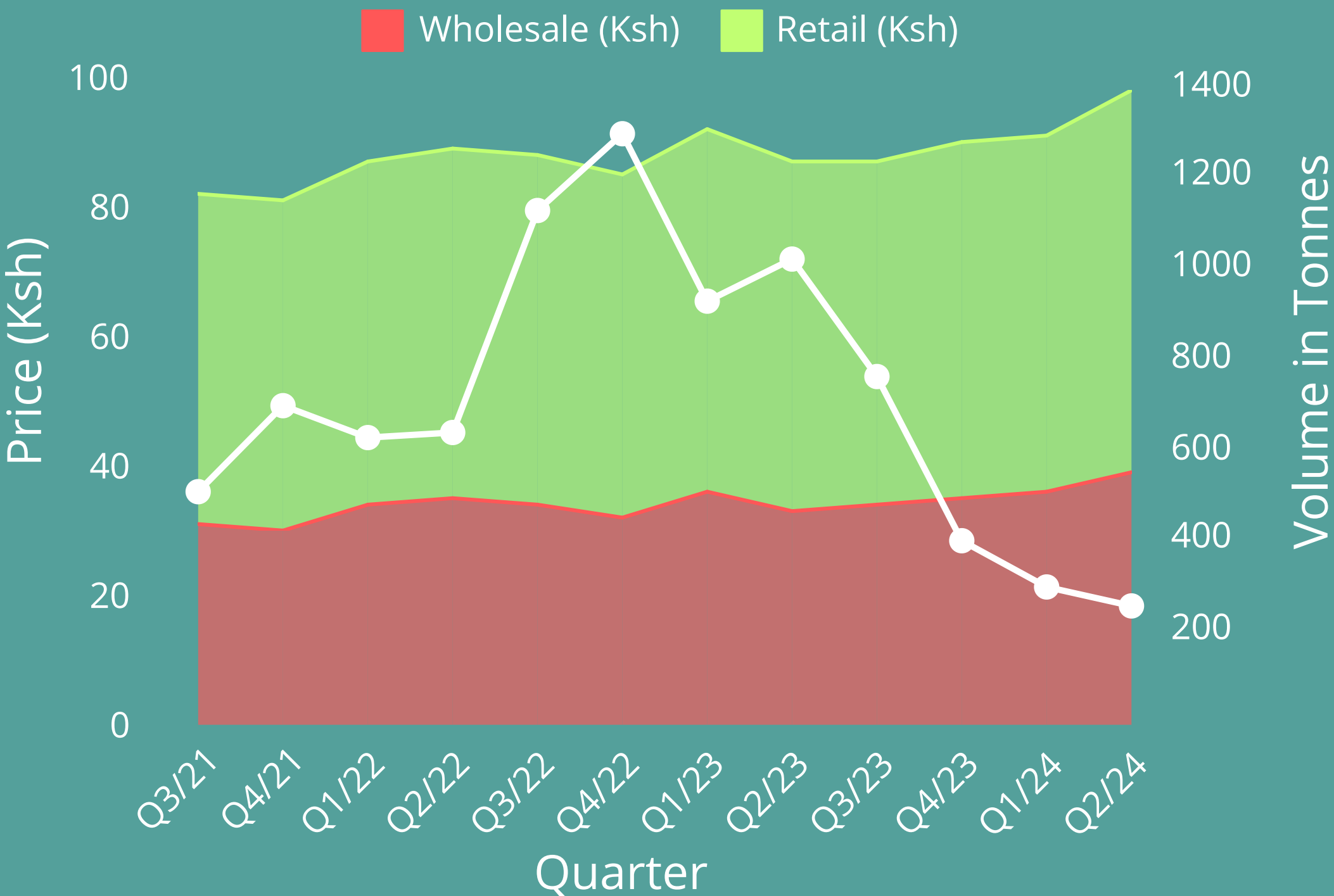




# HIGH-DEMAND | HIGH-PROFIT

## SPINACH

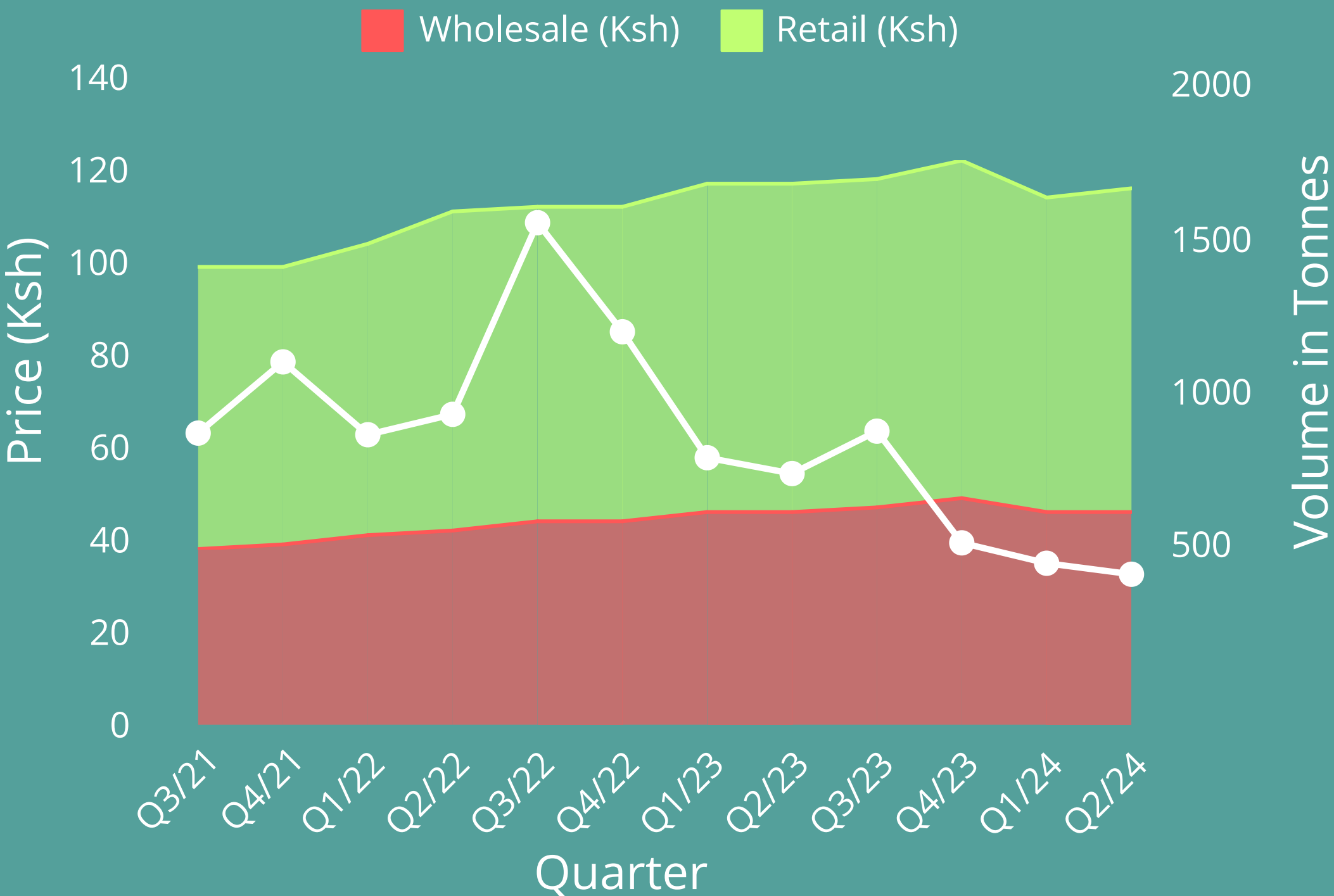
Commodity Pricing Time-Series Analysis



# HIGH-DEMAND | HIGH-PROFIT

## GREEN MAIZE

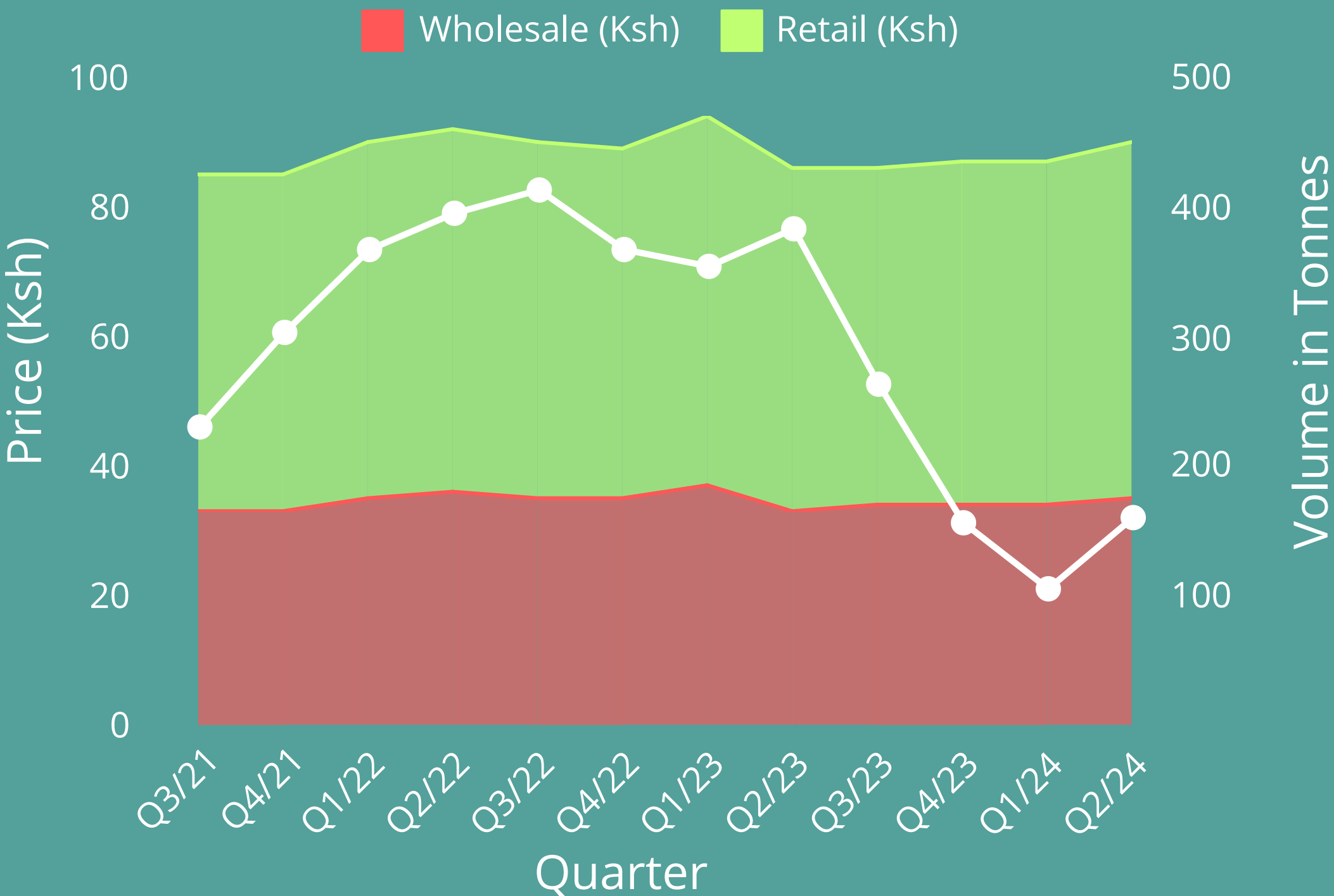
### Commodity Pricing Time-Series Analysis



# HIGH-DEMAND | HIGH-PROFIT

## AMARANTHUS / TERERE

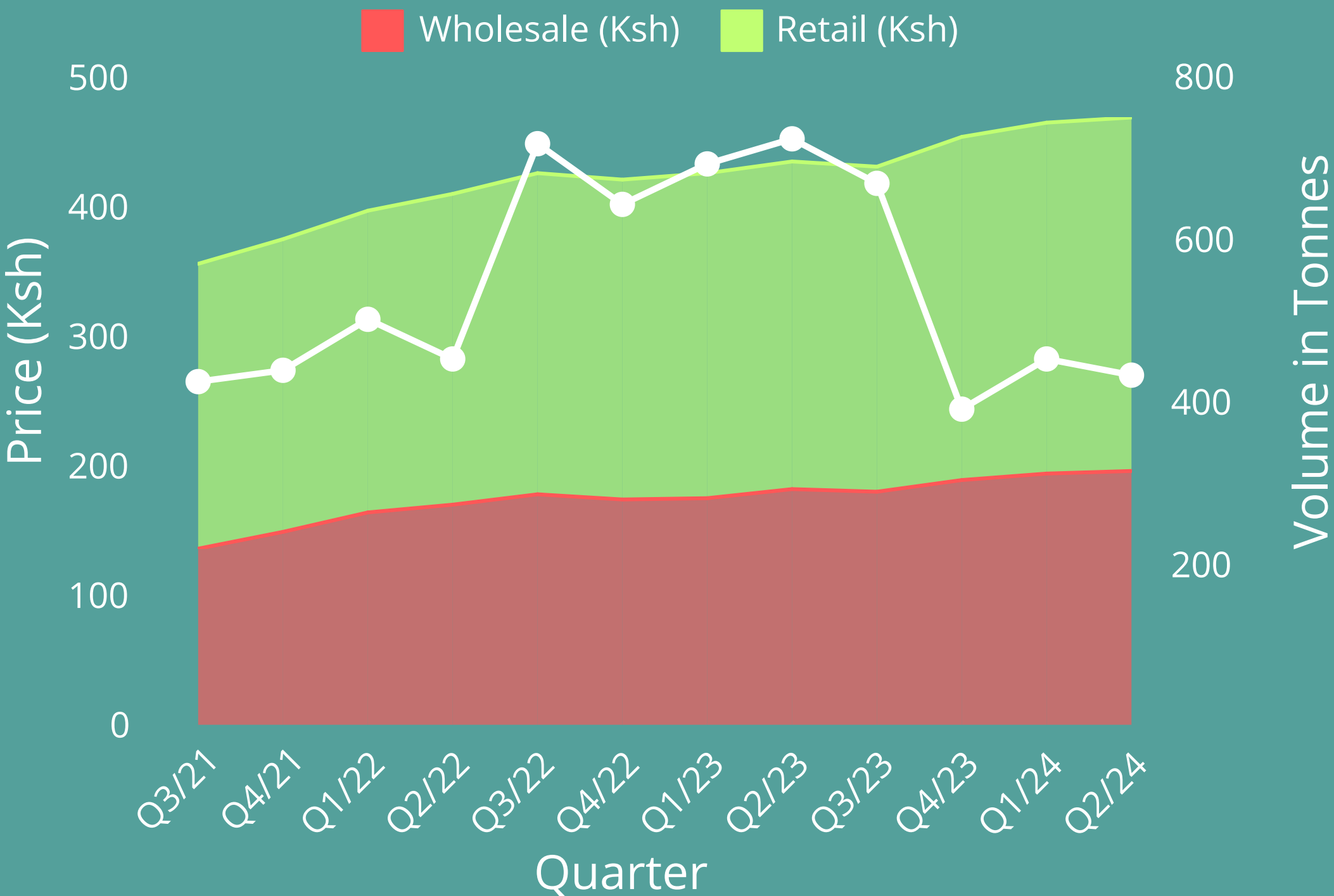
Commodity Pricing Time-Series Analysis



# HIGH-DEMAND | HIGH-PROFIT

## LENTILS

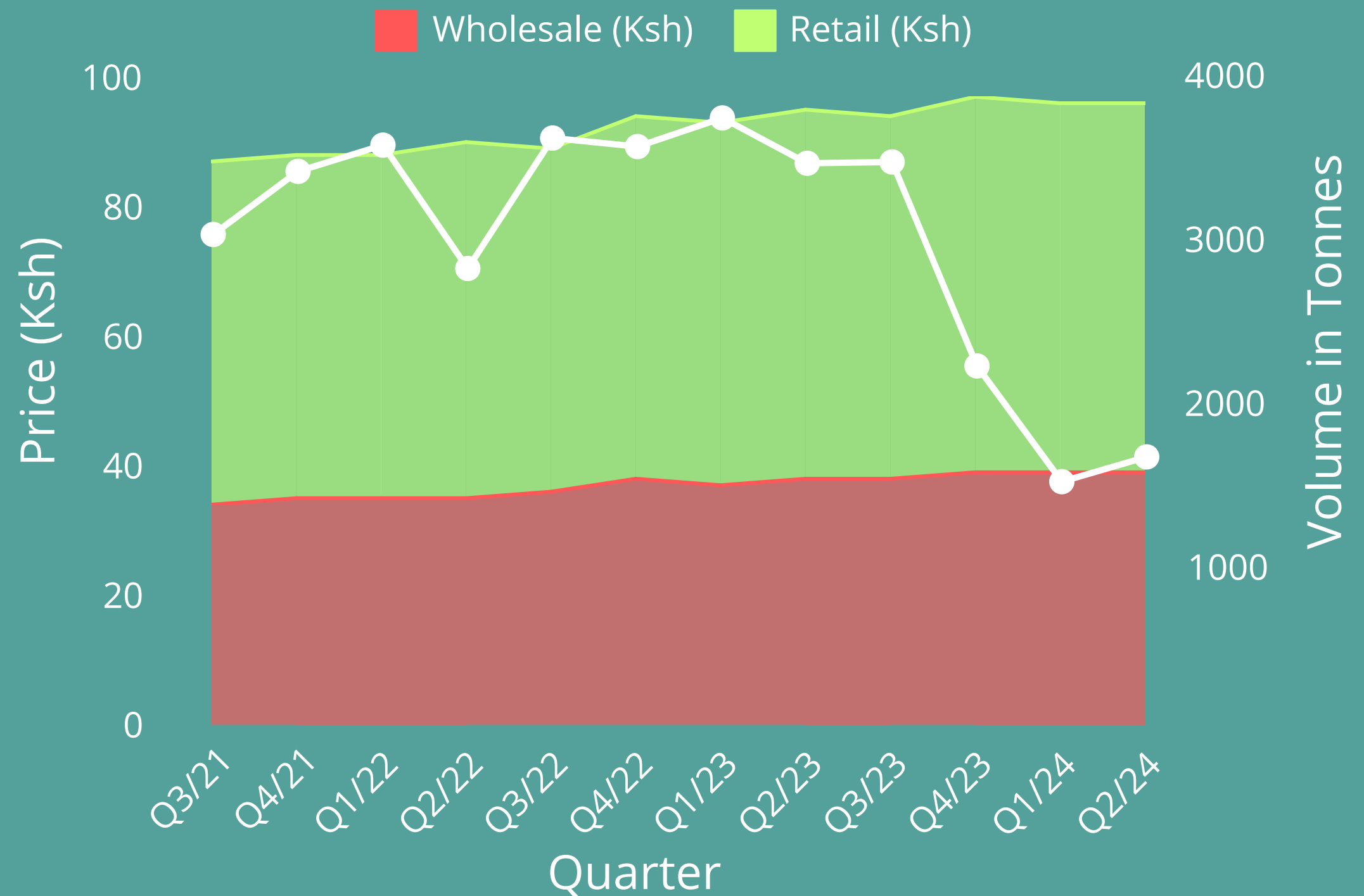
### Commodity Pricing Time-Series Analysis



# HIGH-DEMAND | HIGH-PROFIT

## WATER MELON

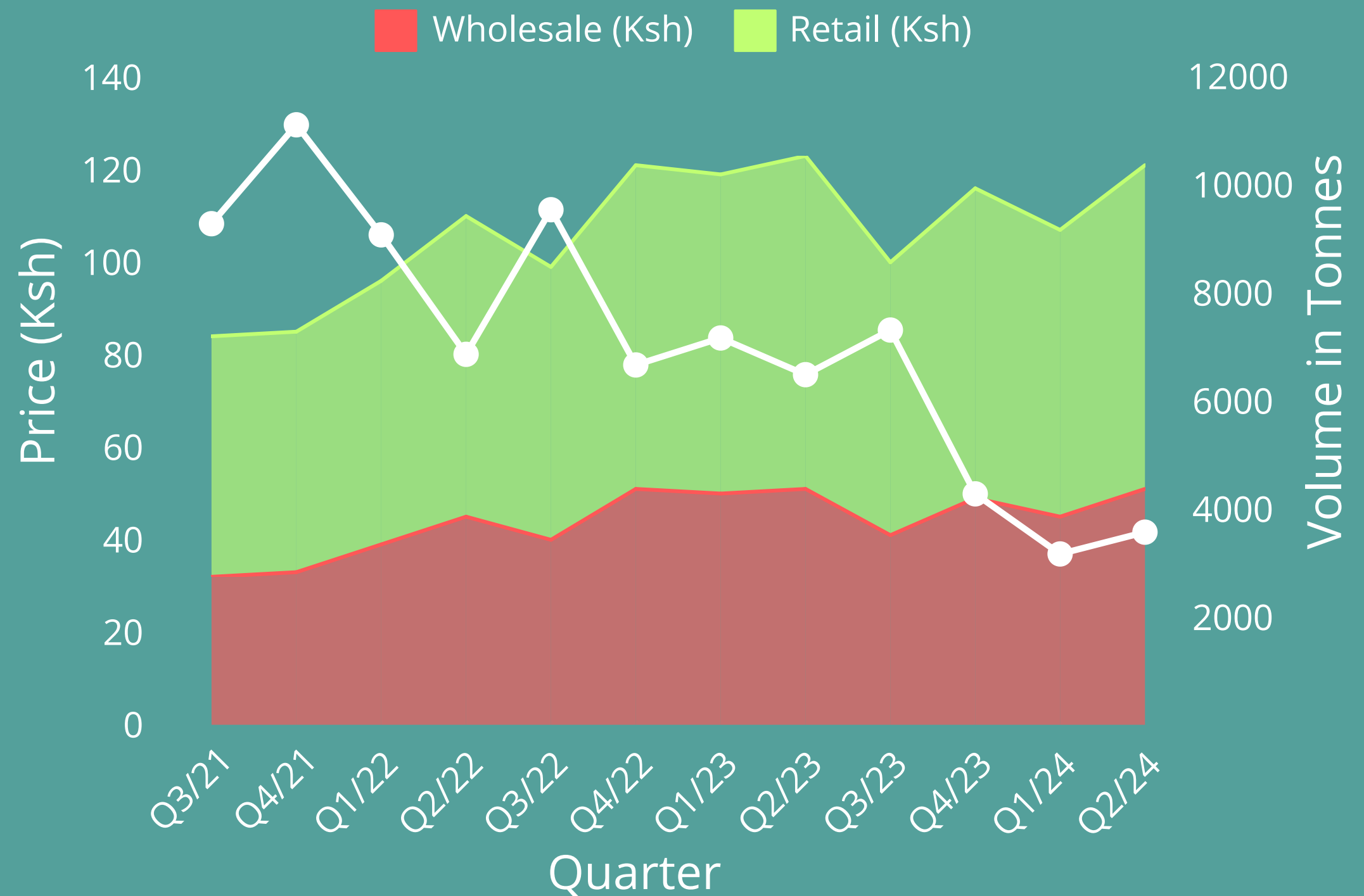
### Commodity Pricing Time-Series Analysis



# HIGH-DEMAND | HIGH-PROFIT

## WHITE IRISH POTATOES

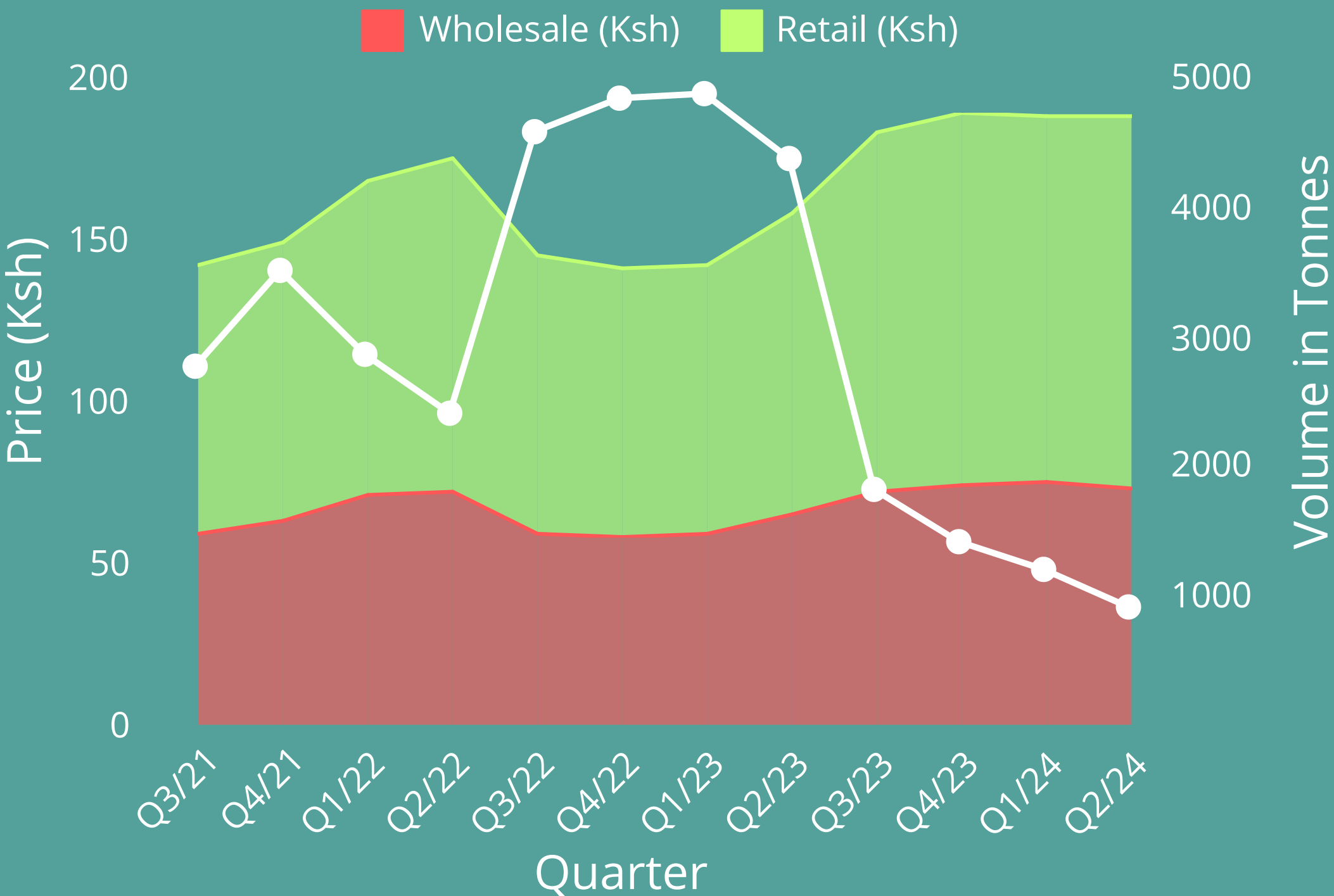
### Commodity Pricing Time-Series Analysis



# HIGH-DEMAND | HIGH-PROFIT

## DRY ONIONS

Commodity Pricing Time-Series Analysis





# FINDINGS

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Demand is mainly staple driven, with 50% of the top 10 being starches.



Sales are higher in Rural Counties, as compared to urban counties. (70% of the top 10)



Leafy vegetables have incredible resell profits, with 70% of the top10.



Top commodities with good profits and high demand are dominated by leafy vegetables (45%) followed by starches (25%).

# INSIGHTS

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Smallholder farmers in the starches and leafy vegetable sectors are doing well.



Sales are higher in net-production zones than in net-consumption zones (urban).



With the exception of lentils, lucrative commodities are retailing at around 100/- per kilo or less.



Production of all commodities dips drastically from 2023, indicating a serious problem that requires attention.

# RECOMMENDATIONS

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Smallholder farmers should balance starches and leafy vegetables to target good profits.



Market-linkage players should explore niche markets further since niche commodities offer incredible profits.



Retailers should consider stocking the right commodities that offer a good balance between demand and profit.

# CONCLUSION

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Hello again! That was quite a lot to read, wasn't it? I'm glad you made it this far.

This is a summary on Part I of my research; ***Seasonal Crops***. My next summaries shall include deep dives on:

1. Part II is on ***Perennial Crops***
2. Part III: ***Livestock, Fish & Animal Products***.

*Stay tuned...*

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