



# 1<sup>ST</sup> EUROPEAN SORGHUM CONGRESS

WORKSHOP

CONGRESS INTRODUCTION

## SNAPSHOT OF THE EUROPEAN AND GLOBAL STATE OF SORGHUM



Olivier BOUILLET, Director Black Sea, Agritel UKRAINE

BUCHAREST  
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# CLASSIFICATION OF SORGHUM

## LETS FOCUS ON SORGHUM FOR GRAINS !

*Grain Sorghum*



*Forage Sorghum*



*Sweet Sorghum*





# SORGHUM VS CORN

## A MATTER OF QUALITY

Figure : Typical nutrient composition of sorghum compare to corn

	Sorghum	Corn
Dry matter, %	89.0	89.0
Energy, kcal/lb.		
Digestible	1,533	1,598
Metabolizable	1,515	1,551
NE INRA <sup>2</sup>	1,188	1,086
NE NRC	1,023	1,086
Crude protein, %	9.2	8.3
Calcium, %	0.03	0.03
Phosphorus, %	0.29	0.28
Available P, %	0.058	0.039
Crude fat, %	2.9	3.9
Linoleic acid, %	1.13	1.92
Crude fiber, %	2.4	2.15
NDF, %	18.0	9.6
ADF, %	8.3	2.8
Total amino acids, %		
Lysine	0.22	0.26
Isoleucine	0.37	0.28
Leucine	1.21	0.99
Methionine	0.17	0.17
Cysteine	0.17	0.19
Threonine	0.31	0.29
Tryptophan	0.10	0.06
Valine	0.46	0.39

● As much energy as corn but more:

● Protein

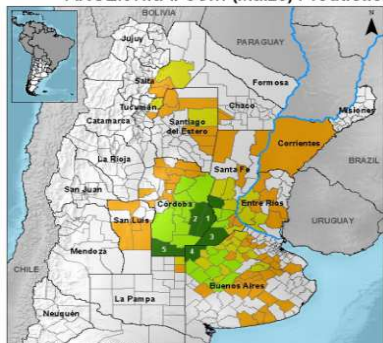
● Amino acids



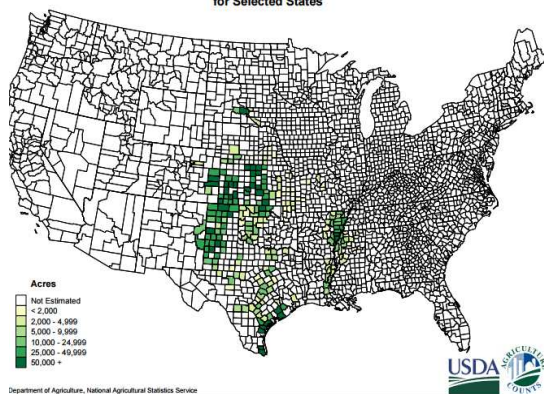
# SORGHUM: AN INTERESTING ALTERNATIVE TO CORN

## CORN

ARGENTINA: Corn (Maize) Production

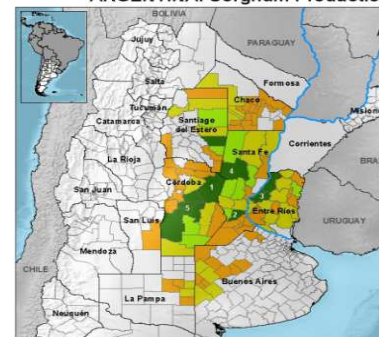


Sorghum for Grain 2015  
Harvested Acres by County  
for Selected States

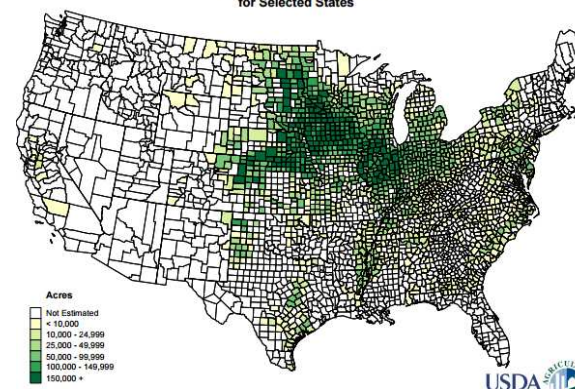


## SORGHUM

ARGENTINA: Sorghum Production



Corn for Grain 2015  
Harvested Acres by County  
for Selected States



Water Scarcity

Marginal Land

Western US

Corn

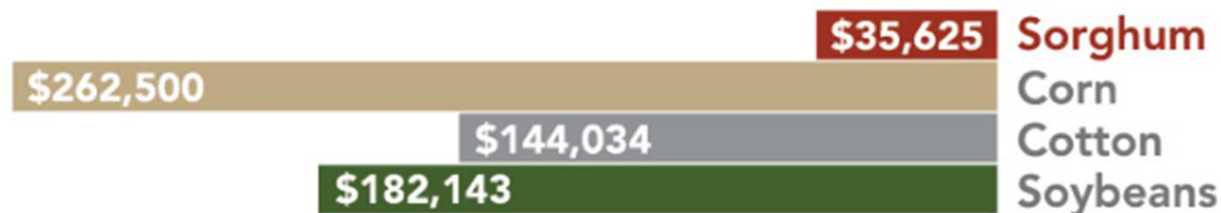
Sorghum



# MORE BENEFITS TO GET WITH SORGHUM THAN CORN IN DRY AREAS



## TOTAL SEED COST



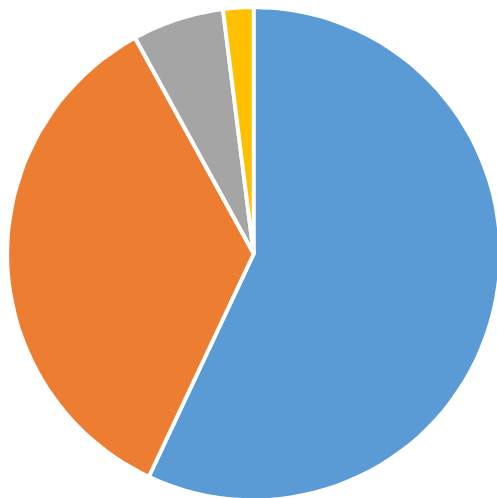
NC Kansas Rainfed		
Category	Corn	Sorghum
Yield (bu/acre)	130	120
Price per bu	3.83	4.58
Total Revenue	497.90	549.60
Seed	93.60	18.90
Pesticides	50.01	49.30
Fertilizer	119.67	104.03
Machinery & Other	278.94	268.47
Total	542.22	440.69
Return over Costs	(44.32)	108.90



# UTILIZATION OF SORGHUM

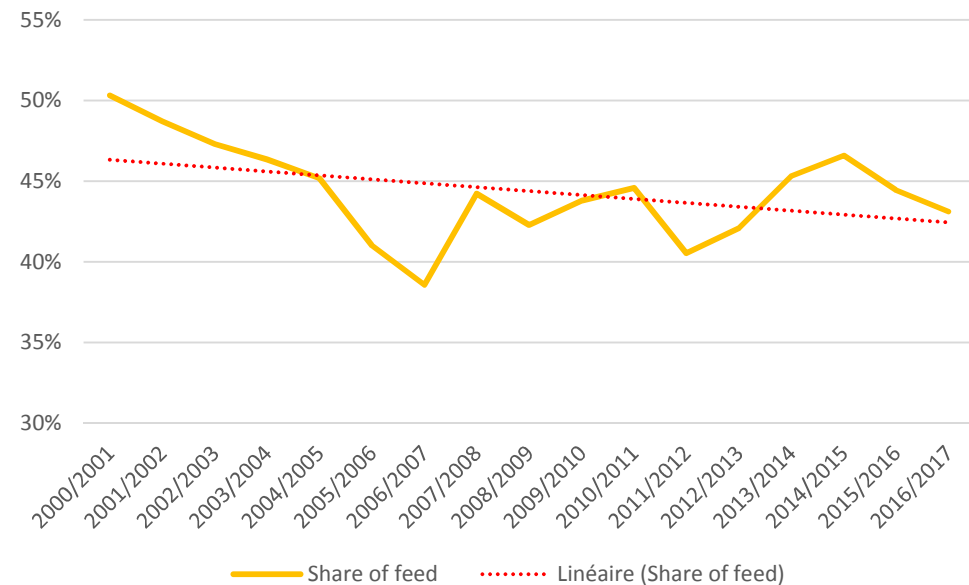
## MOSTLY USED FOR HUMAN CONSUMPTION

Sorghum utilization (%)



■ Human consumption ■ Poultry ■ Alcohol ■ seed

Share of feed use (% of total use)

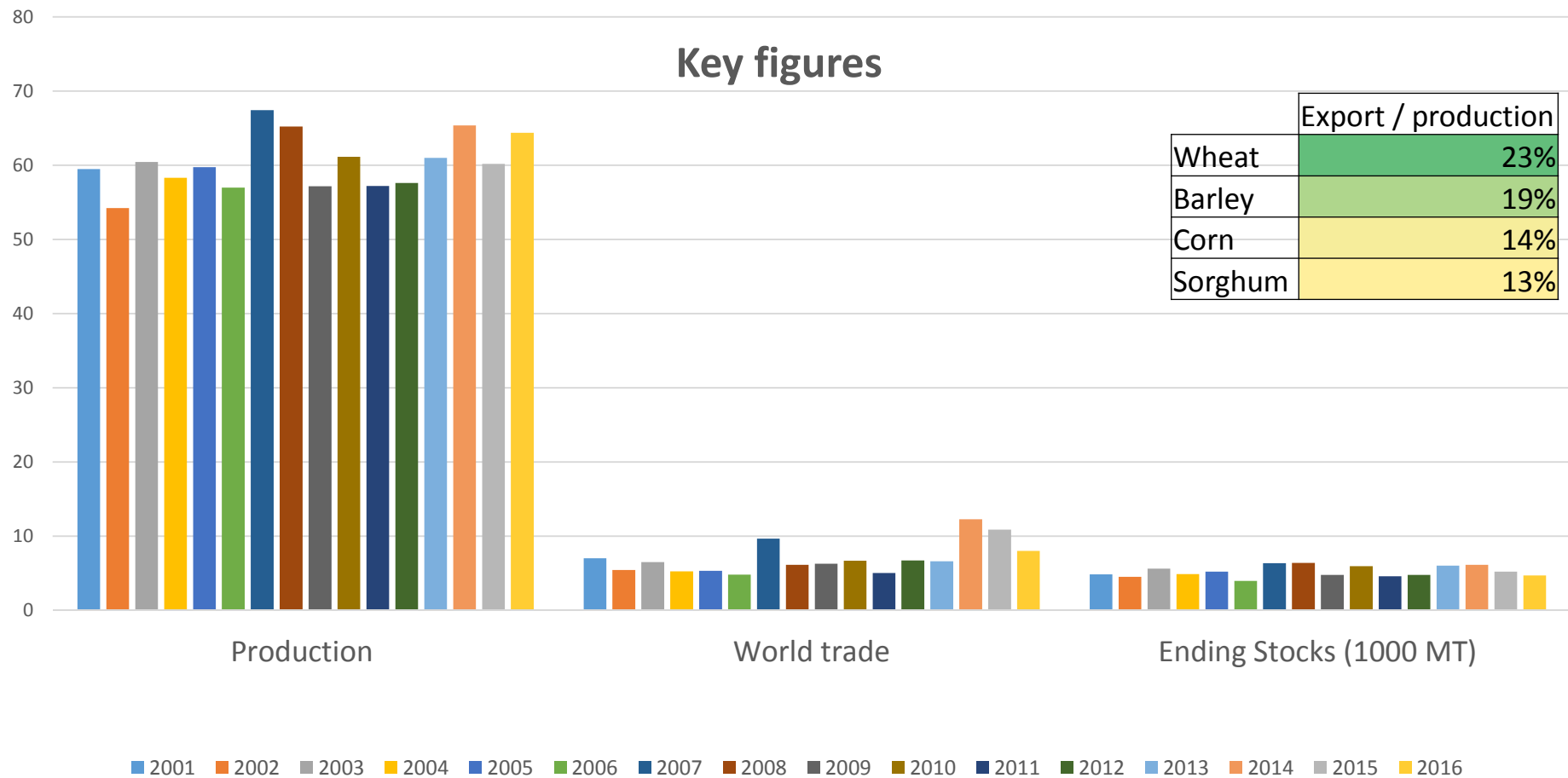




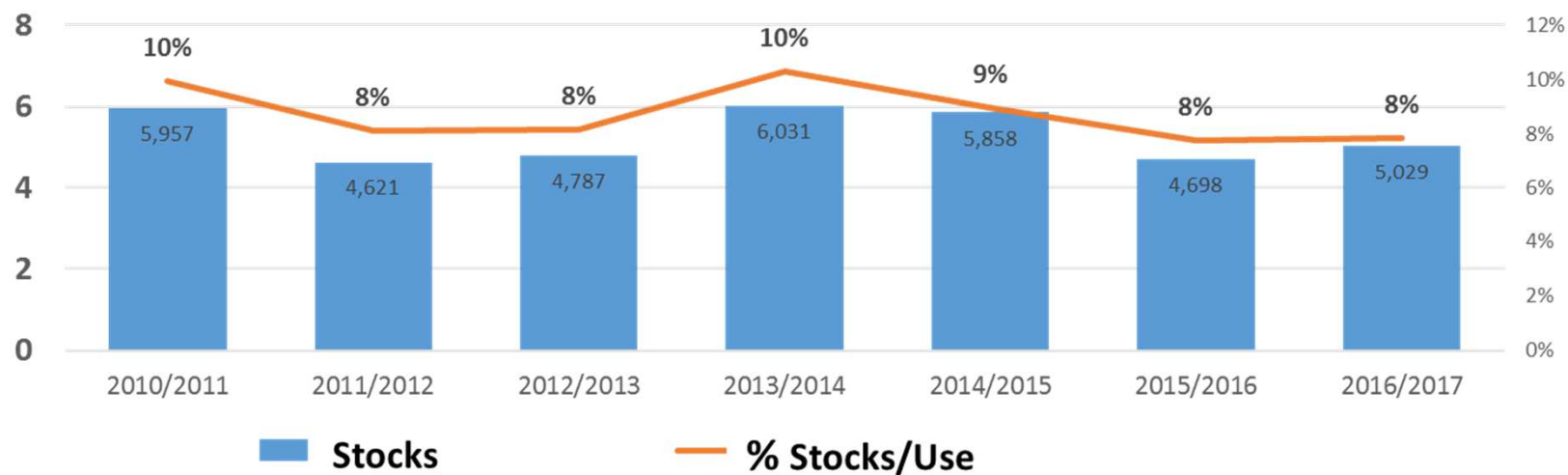
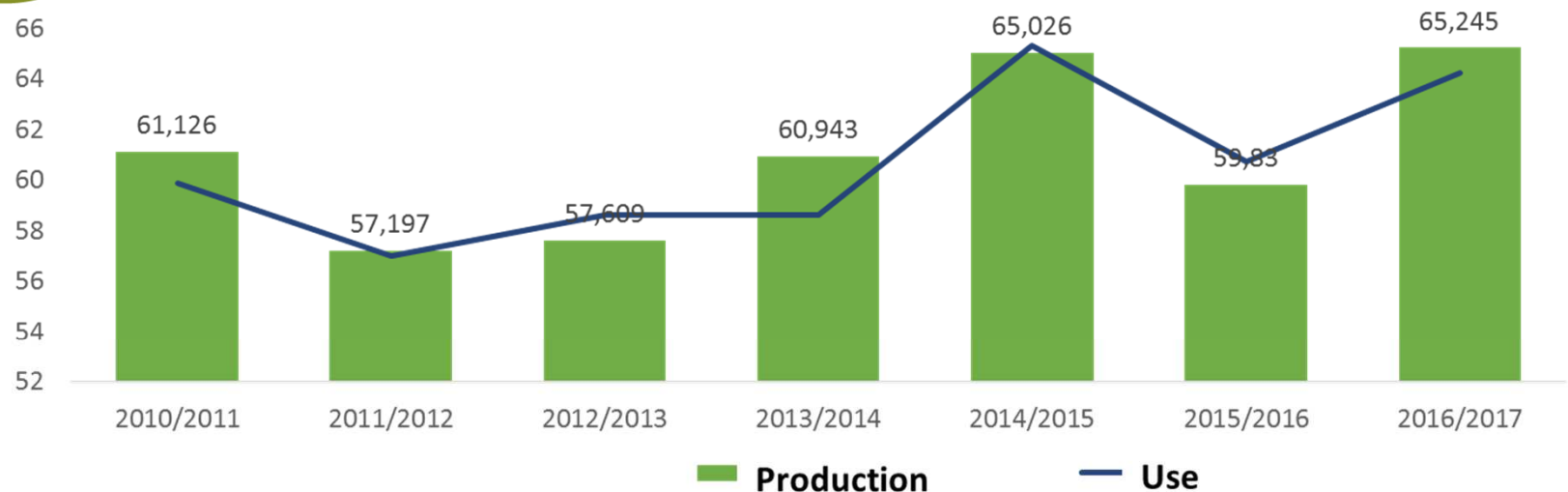


# WHAT ABOUT FUNDAMENTALS?

## ONE KEY WORD = STABILITY

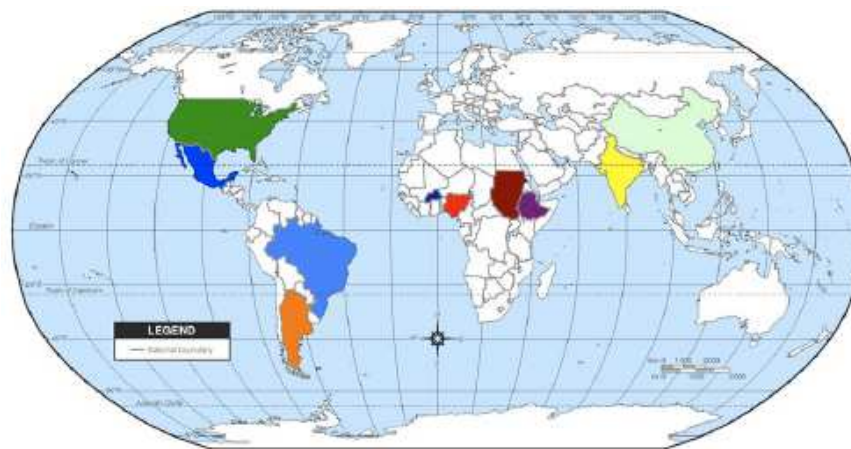


# RECORD OUTPUT IN 2016

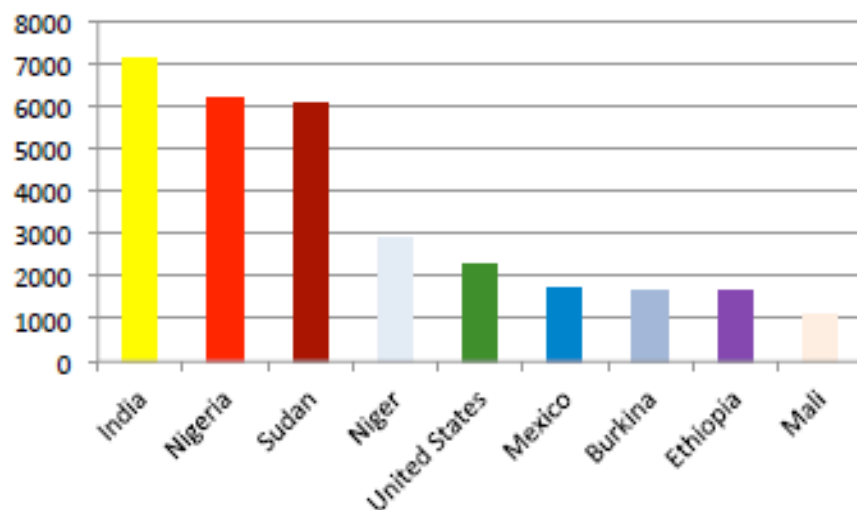




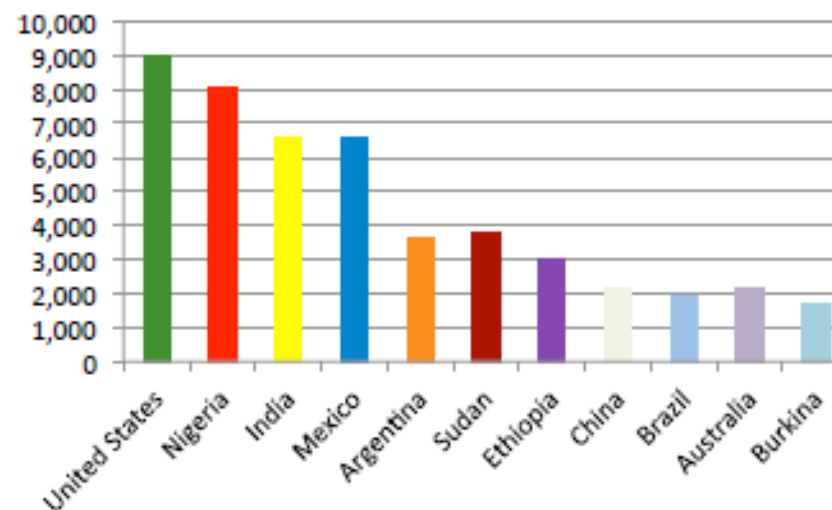
# US AS THE MAIN PRODUCER



**Harvested Area (1000 HA)**



**Production (1000MT)**





# CHINESE AS FIRST CONSUMER

IT SUGGESTS A SIGNIFICANT FLOW OF GOODS

## Production (1000 MT)

1 <a href="#">United States</a>	12,408.00
2 <a href="#">Mexico</a>	6,500.00
3 <a href="#">Nigeria</a>	6,500.00
4 <a href="#">India</a>	5,500.00
5 <a href="#">Sudan</a>	5,500.00
6 <a href="#">Ethiopia</a>	3,700.00
7 <a href="#">Argentina</a>	3,400.00
8 <a href="#">China</a>	3,200.00
9 <a href="#">Australia</a>	2,200.00
10 <a href="#">Brazil</a>	2,000.00



## Domestic Consumption (1000 MT)

1 <a href="#">China</a>	8,800.00
2 <a href="#">Mexico</a>	7,200.00
3 <a href="#">Nigeria</a>	6,400.00
4 <a href="#">United States</a>	5,588.00
5 <a href="#">Sudan</a>	5,500.00
6 <a href="#">India</a>	5,400.00
7 <a href="#">Ethiopia</a>	3,650.00
8 <a href="#">Argentina</a>	2,950.00
9 <a href="#">Brazil</a>	1,900.00
10 <a href="#">Burkina Faso</a>	1,800.00



# A BIPOLAR ORGANISATION

73%

## Rank Country

1 United States

2 Argentina

3 Australia

4 Ukraine

5 Nigeria

6 India

7 Kenya

8 Ethiopia

9 Brazil

10 South Africa

## Exports (1000 MT)

6,350.00

900.00

900.00

150.00

100.00

50.00

25.00

25.00

25.00

25.00

69%

## Rank Country

1 China

2 Japan

3 Mexico

4 EU-27

5 Chile

6 Kenya

7 Sudan

8 Taiwan, Province Of China

9 Ethiopia

10 Pakistan

## Imports (1000 MT)

5,500.00

730.00

700.00

150.00

150.00

100.00

100.00

50.00

50.00

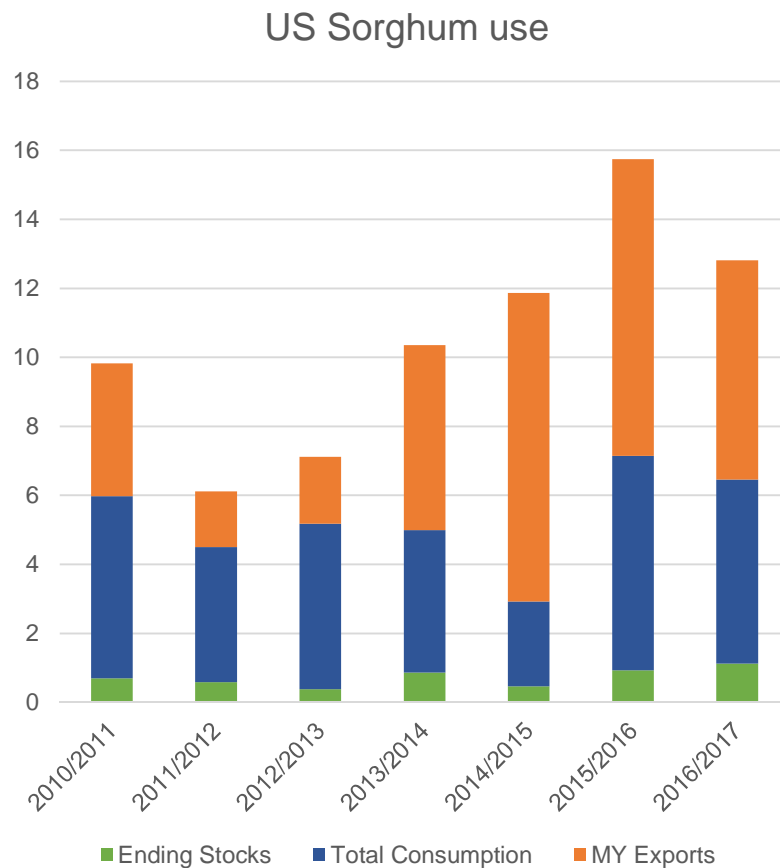
50.00





# US: BUSINESS ORIENTED!

## READY TO SACRIFICE THE CONSUMPTION FOR EXPORT



- Export oriented production
- Capacity of the US to switch for other coarse grain when the demand for export is increasing

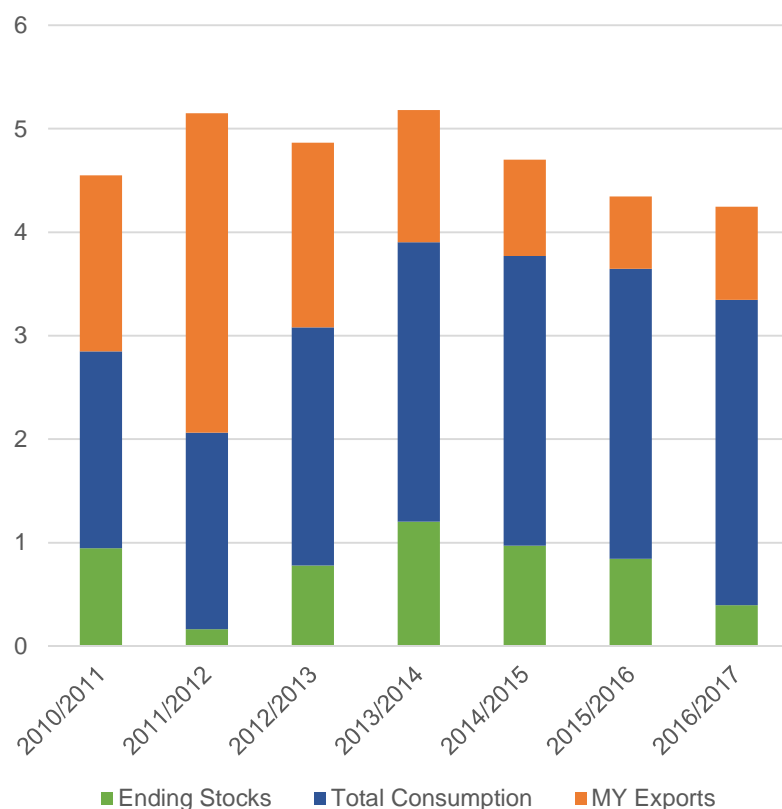




# ARGENTINA: LESS PRESENT

## REDUCING ITS SHARE ON THE INTERNATIONAL SCENE

Argentinian Sorghum use



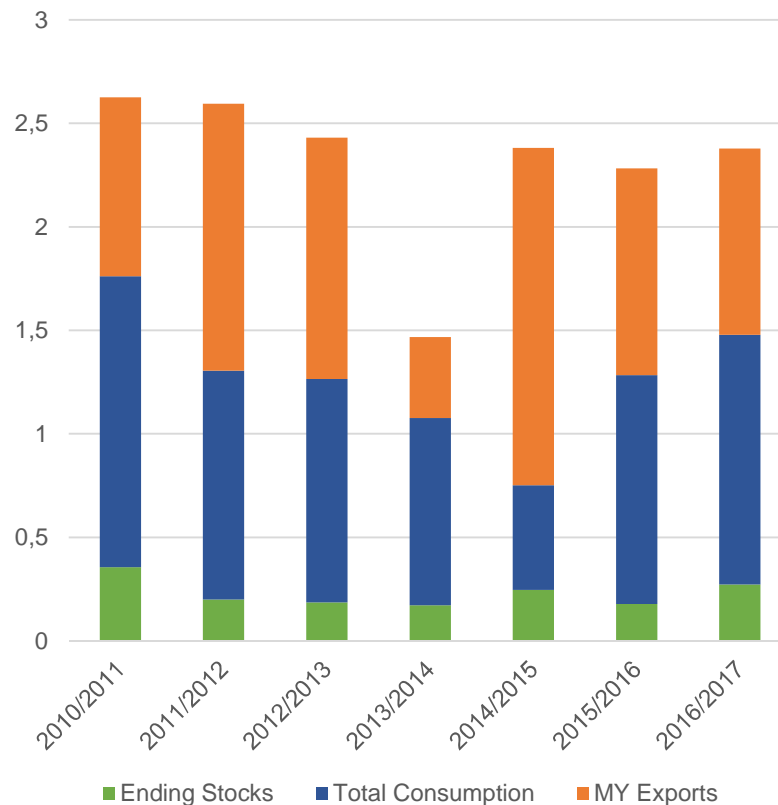
- Export volumes are weaker than 1Mt/year
- Stable internal consumption
- Production decline as a explanation for export reduction



# AUSTRALIA: THIRD EXPORTER

## +/- 1MT: STABLE EXPORT

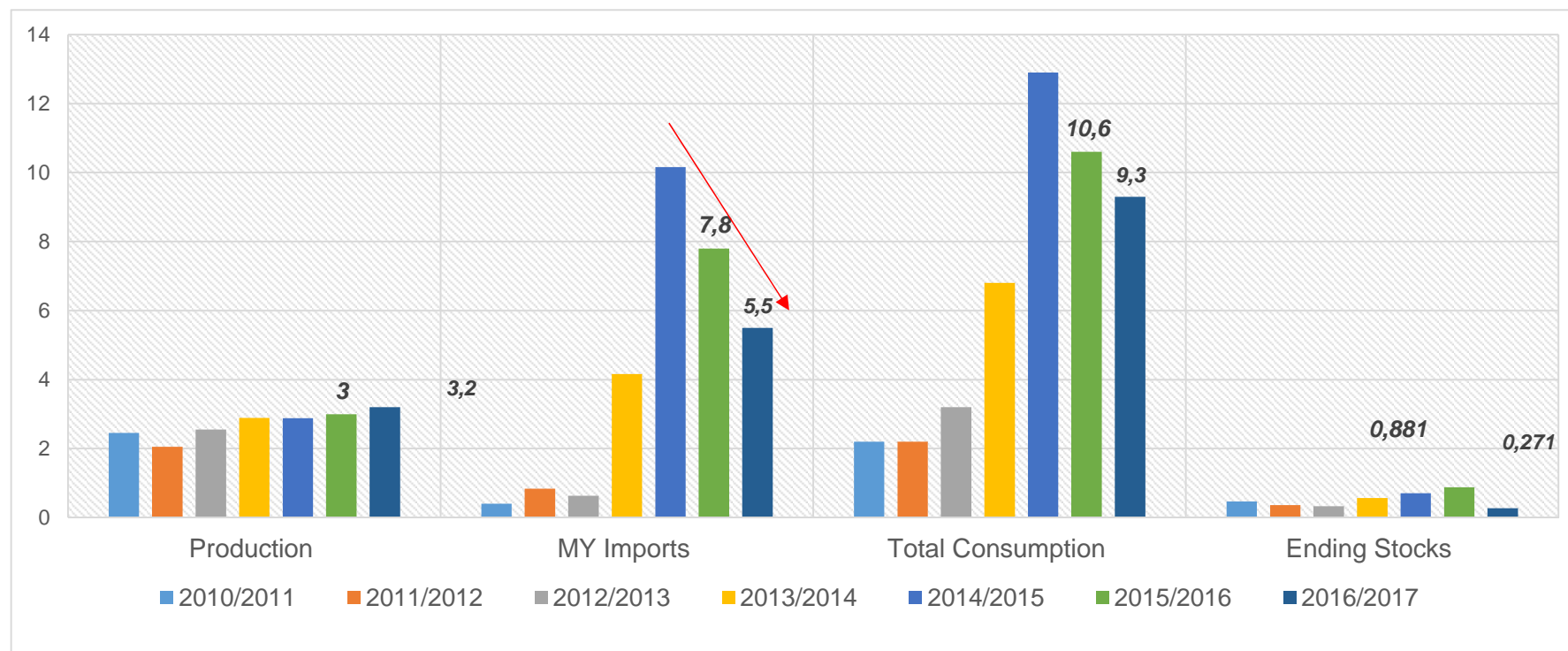
Australian Sorghum use



- Weak production
- Significant reducing in case of drought
- Ability to be always present on the international scene

# CHINA: IMPORT TO BE REDUCED?

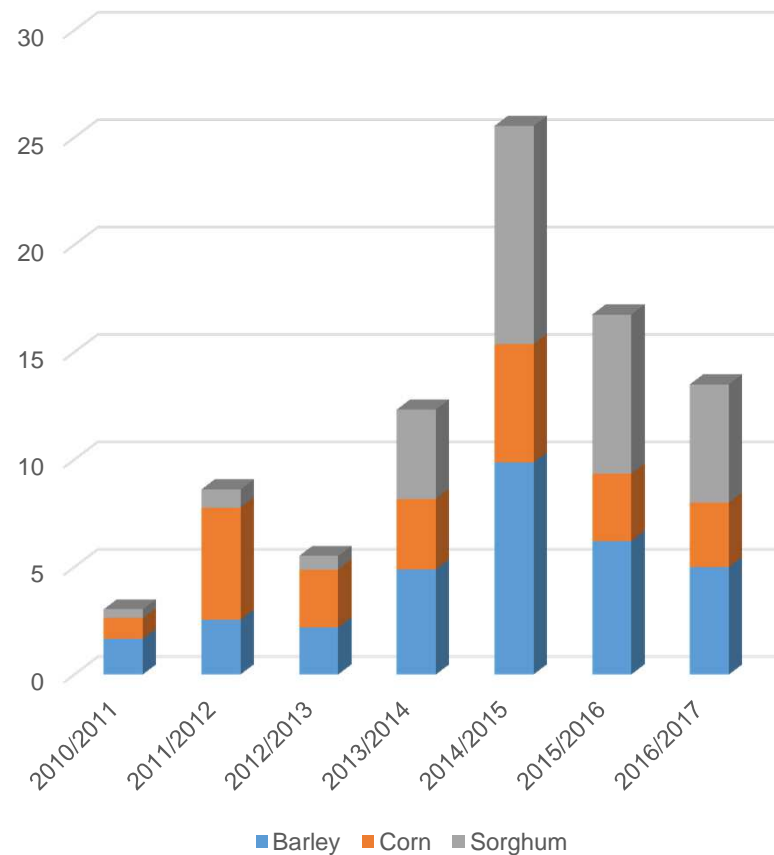
## REDUCTION OF IMPORTS FOR THE SECOND YEAR IN A ROW



- Weak production
- Significant reducing in case of drought
- Ability to be always present on the international scene



## LOWER DEMAND FROM CHINA, NOT ONLY FOR SORGHUM

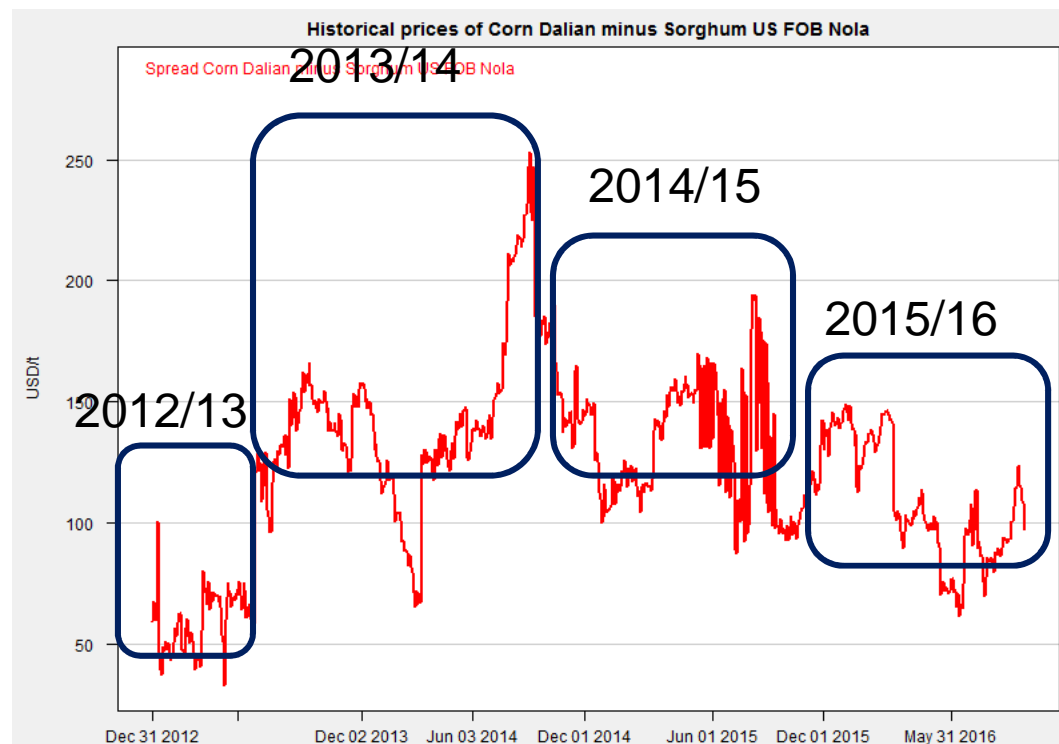


- The import of China is reducing because of their willingness to use their internal stocks in order to decrease import needs in feed grains. That's why import needs were voluntarily reduced.



# REASONS TO IMPORT RALLY

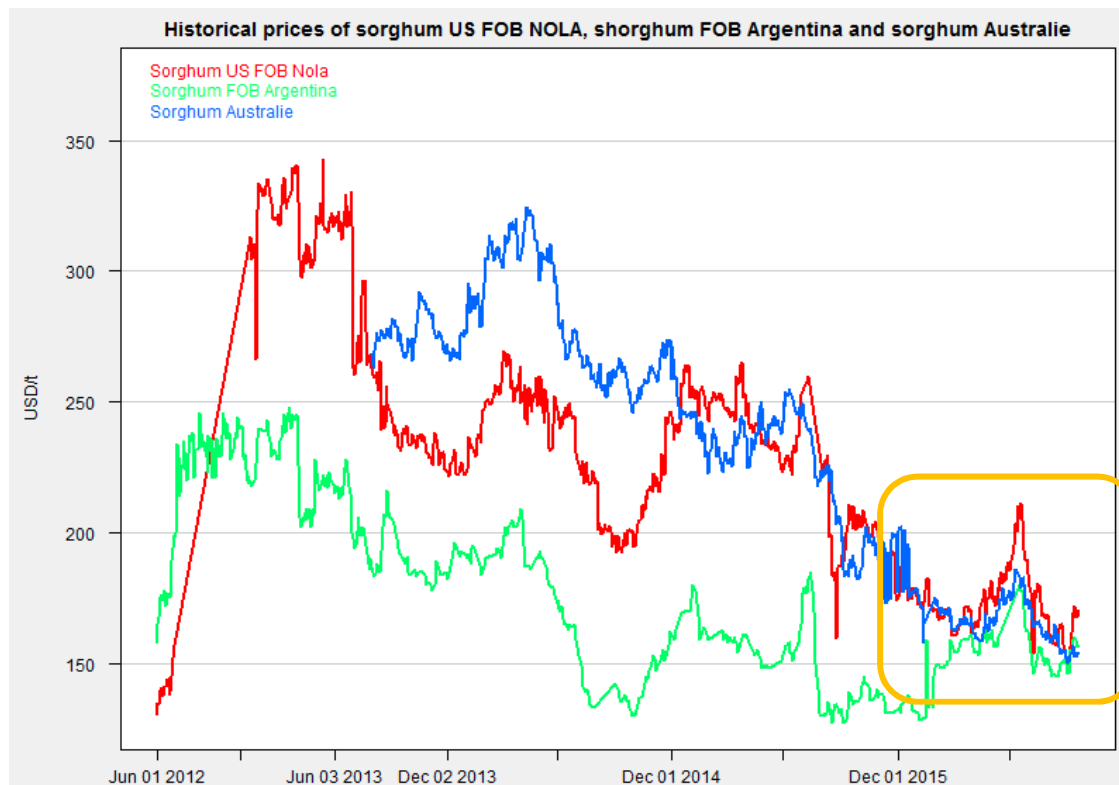
## SPREAD EVOLUTION (CHINA CORN-US SORGHUM)



- High import of sorghum took place during the seasons when price difference stood at high level.

# MAJOR SORGHUM SUPPLIERS

## PRICE COMPARISON AMONGST MAJOR ORIGINS

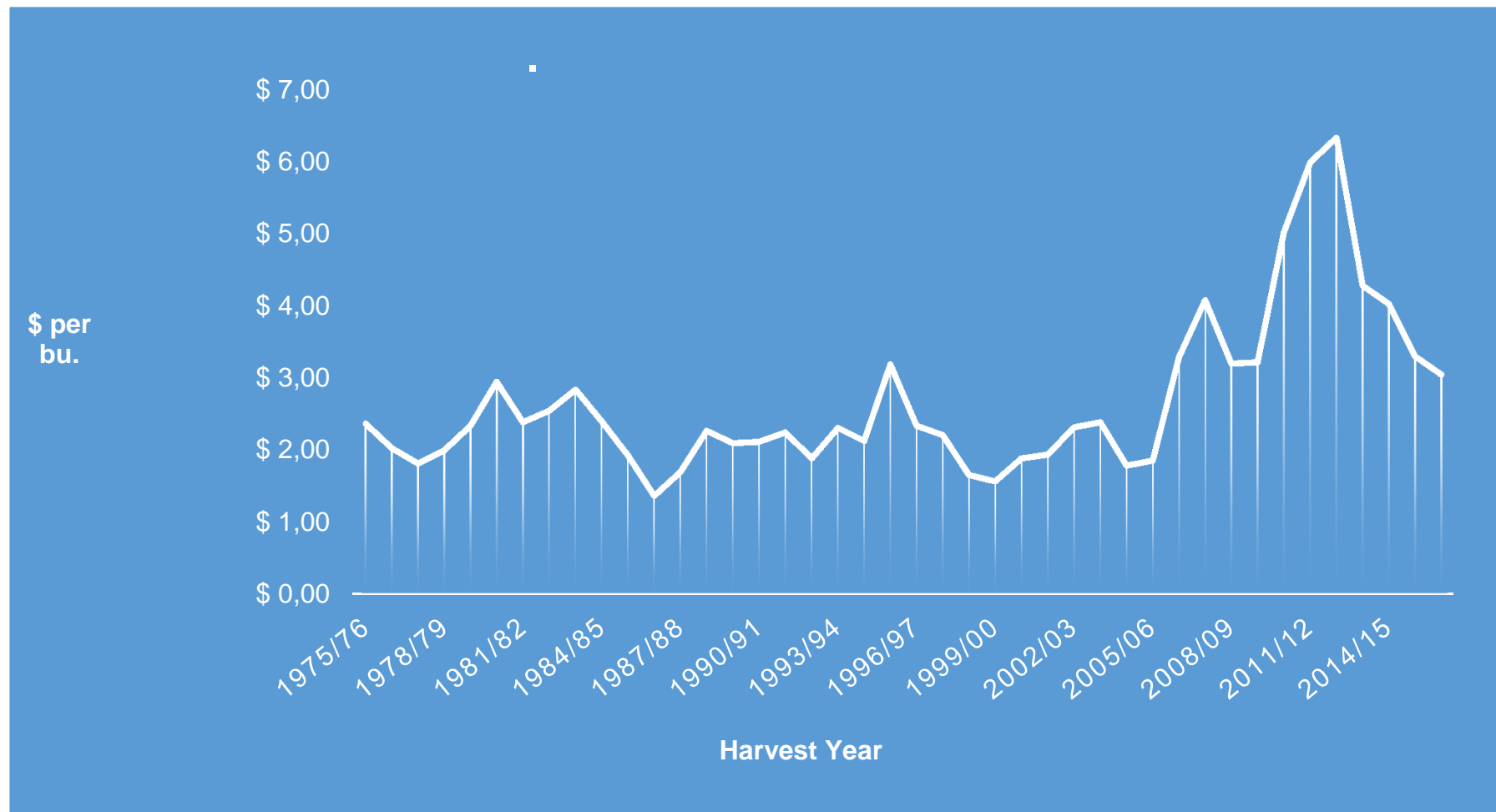


- Sorghum price (fob basis) of different origins converged since the removal of export tax in Argentina.



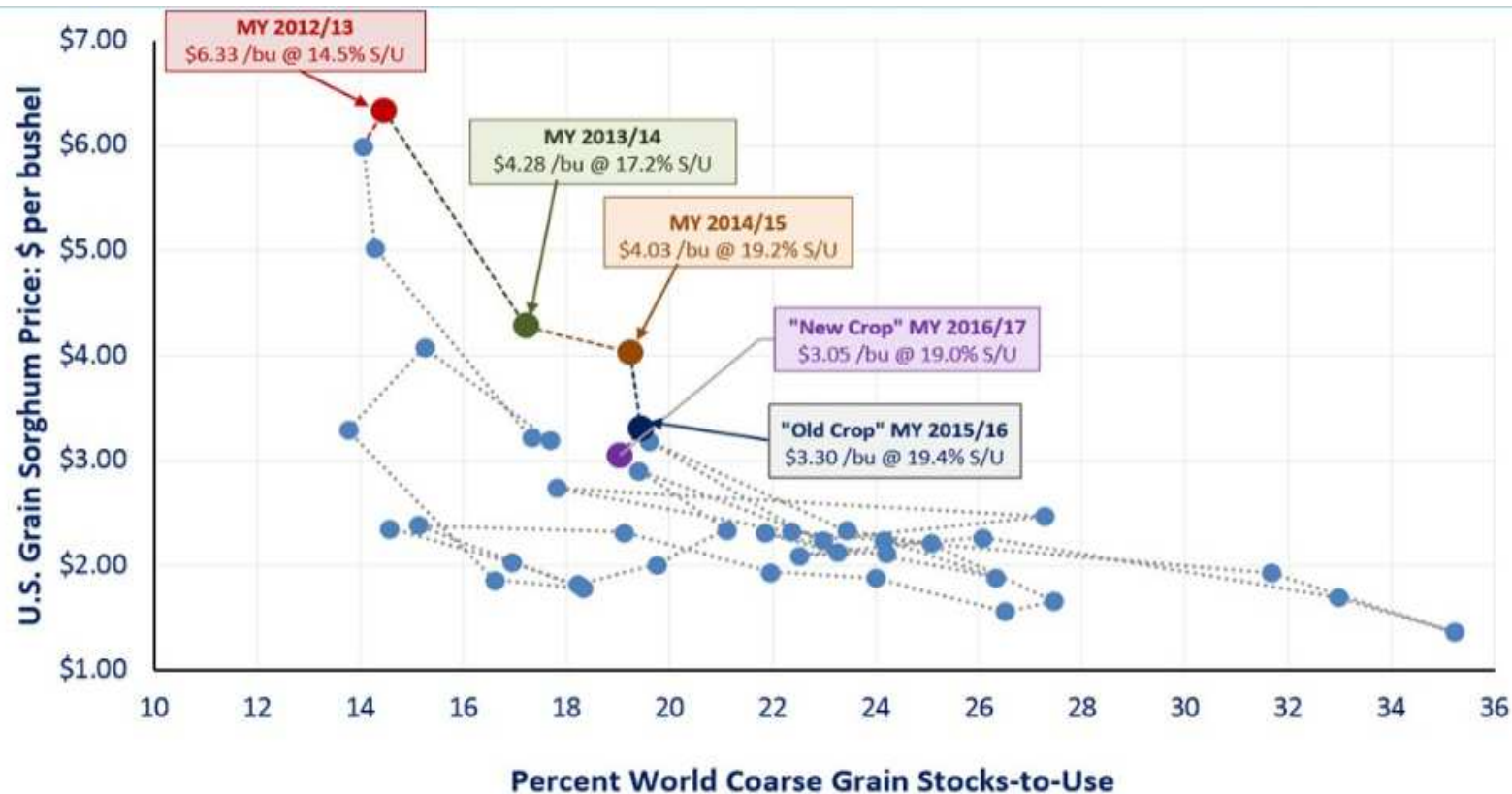
# U.S. AVERAGE SORGHUM

## A WELL-KNOWN DYNAMIC ...



# PRICE FORMATION

## U.S. SORGHUM PRICE VS % U.S. FEED GRAIN STOCKS-TO-USE

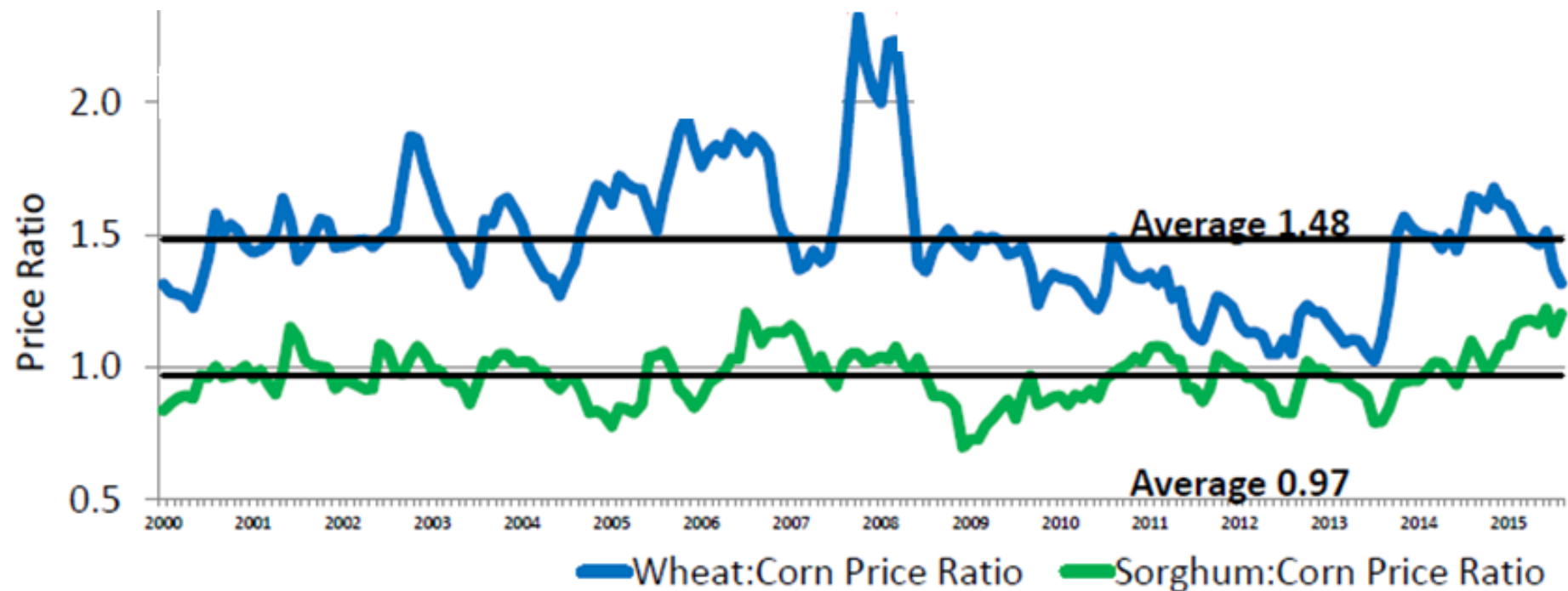


- Sorghum prices formation largely depending on the availability of feed grains



# PRICE FORMATION

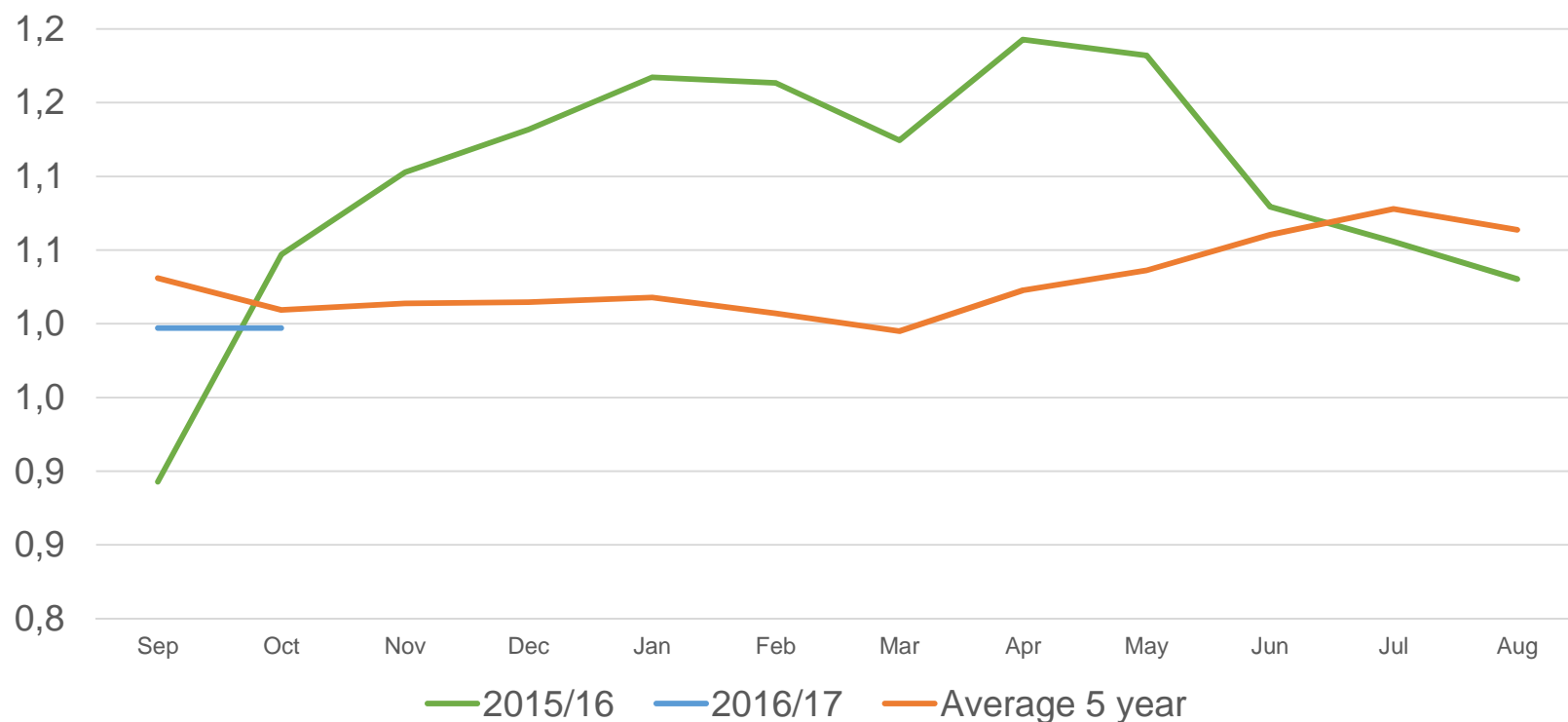
## PRICE RATIO VS CORN



- Interesting dynamics for the past three years

# PRICE FORMATION

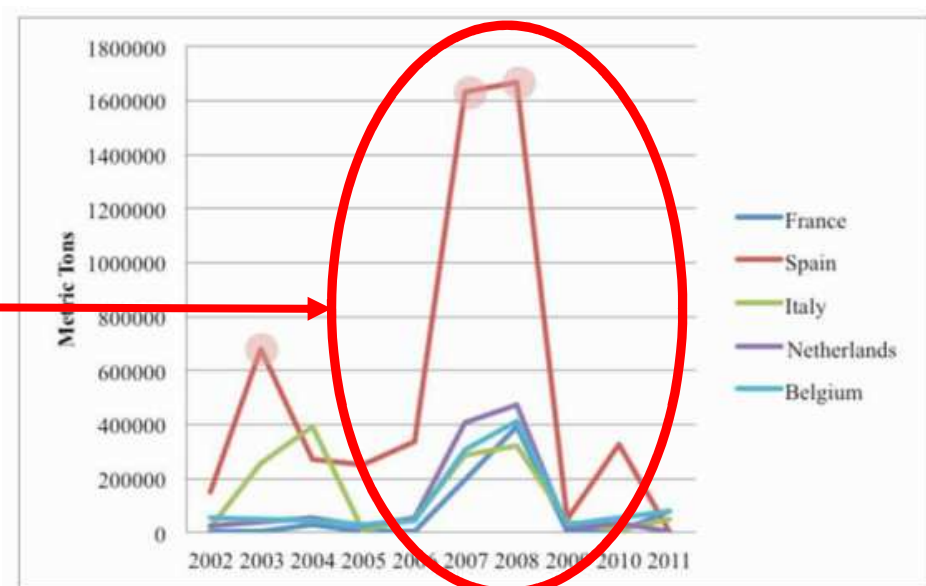
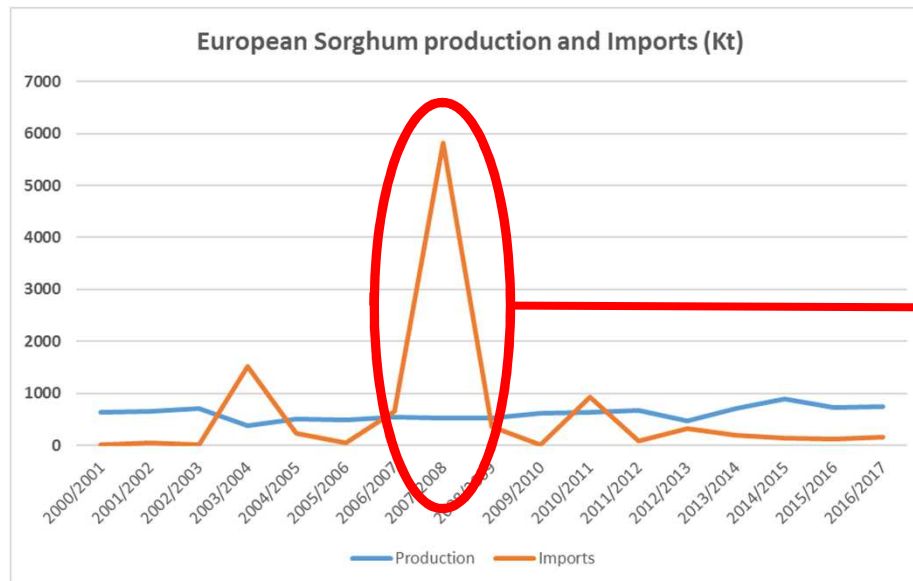
## SORGHUM MORE EXPENSIVE THAN CORN IN US



- In average, sorghum is more expensive than corn (average of US EXW prices)

# EUROPE: NOT A KEY ACTOR BUT...

## READY FOR OPPORTUNITIES



- The 2007/08 event clearly demonstrated the opportunistic behavior of EU.
- Spain as a key importer indicates that sorghum is a good alternative of switch for the feed industry.
- It suggests possible new opportunities for this crop for the future !



# CONCLUSION

- Europe doesn't appear so far to be a key actor in the production as well as in the world trade, but is listening for opportunities
- Sorghum grain production is concentrated in dry areas.
- The global trade is rather concentrated with 3 main exporters and China is from far the hugest importer.
- Good parallel between sorghum and corn prices
- With reducing demand from China, the outlook for prices in middle-term (2016/17) remains not so optimistic as for corn...





# THANK YOU VERY MUCH FOR YOUR ATTENTION!

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Olivier BOUILLET | Directeur Ukraine



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**Contacts**

 14, Mikhailovskiy side street, Apt. 1-  
KIEV 01001, UKRAINE

 +38 044 278 60 65

 [agritelint@agritel.com](mailto:agritelint@agritel.com)