Nitrogen
Situation & Outlook

TFI Fertilizer Outlook Conference
St. Petersburg, Florida

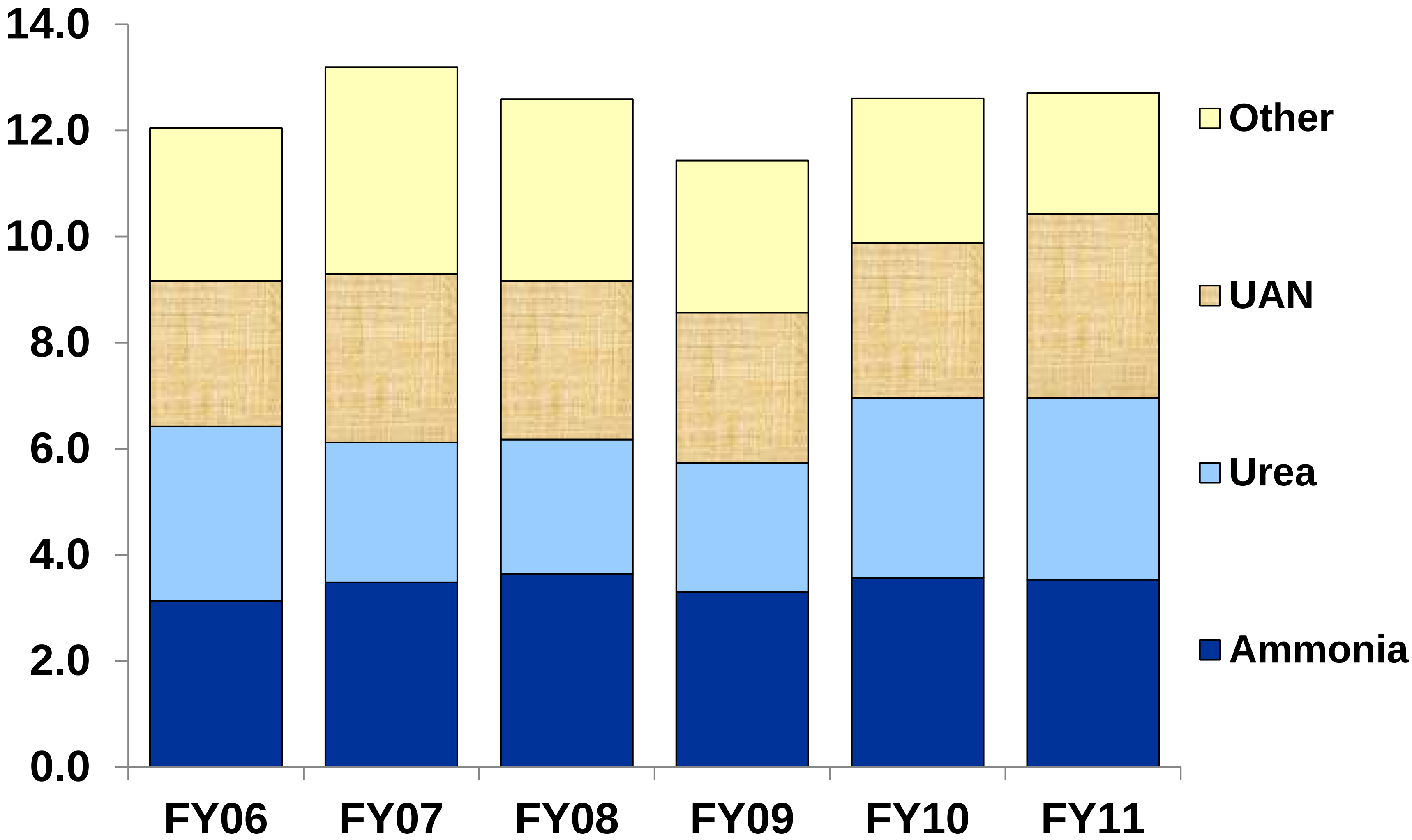
Glen Buckley – Chief Economist/Partner
NPK Fertilizer Advisory Service
www.npkfas.com
November 15, 2011

Presentation Outline

- *Review of FY11*
- *Nitrogen Outlook*
  - *Demand*
  - *S/D Balances*
    - *Urea*
    - *UAN*
    - *Ammonia*

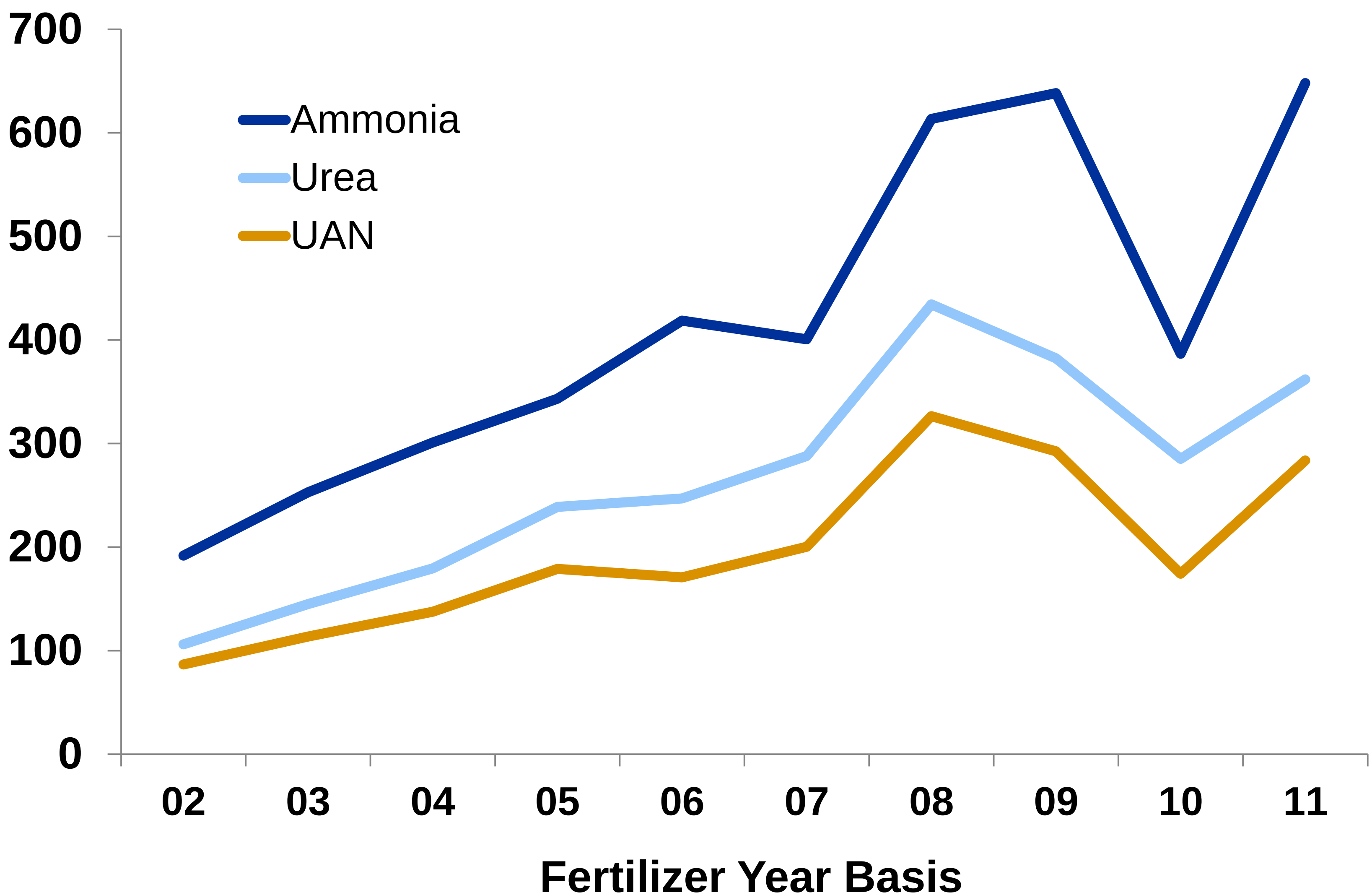
U.S. Nitrogen Fertilizer Demand

(MM Tons of N)

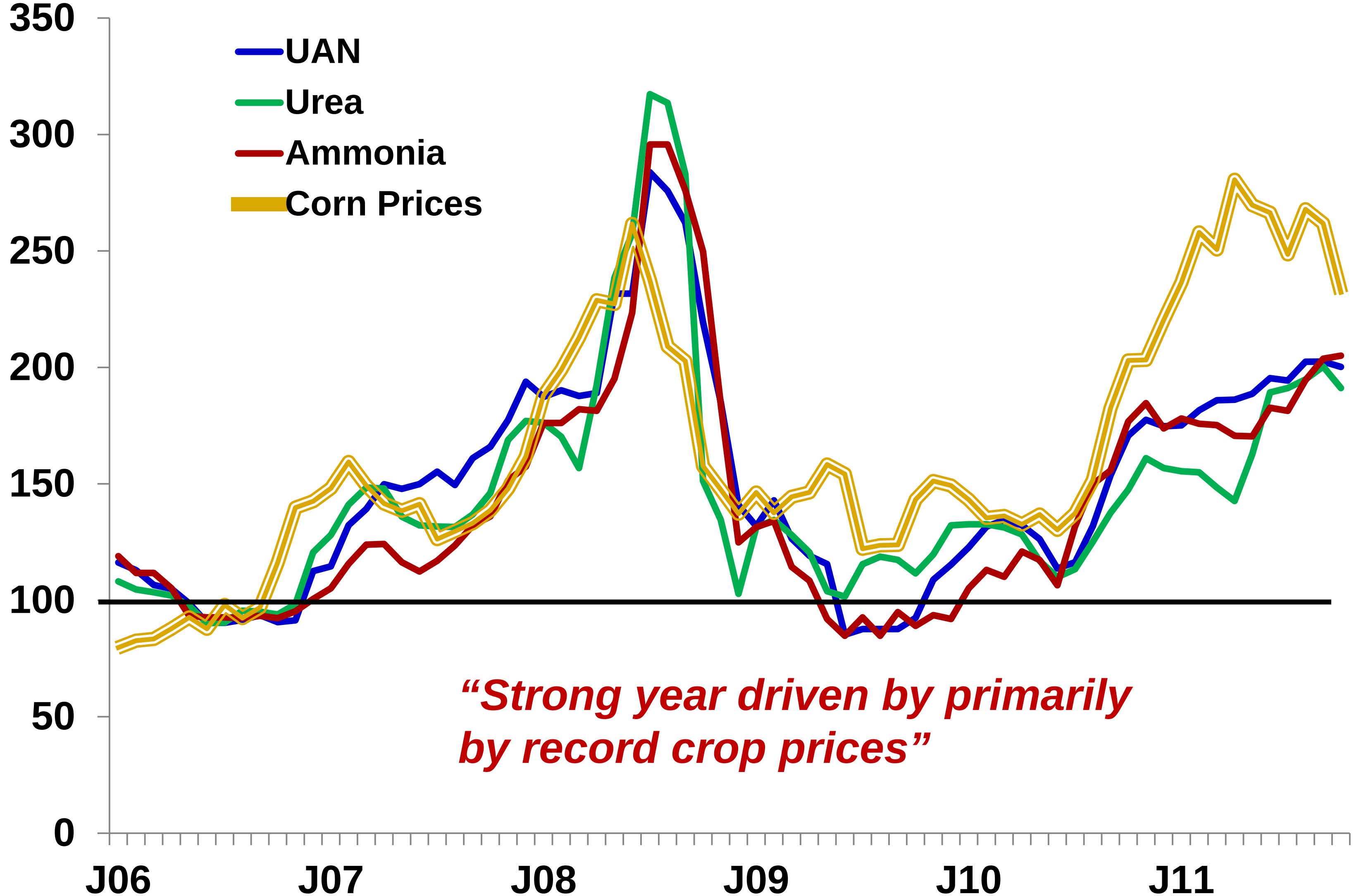


U.S. Annual Average Nitrogen Prices

($/Ton – Weighted by Volume)



Index of MW Fertilizer Prices vs. Nearby Corn Futures (Avg. CY '06=100)



Source: USDA, CBOT

Nitrogen Outlook

U.S. Corn Supply/Demand Scenarios
(Million Bushels)

Marketing Years (Yr. Beg. - Sept. 1)	USDA		NPKFAS
		Proj.	Fct.
	2010/11	2011/12	2012/13
Planted Area	88.2	91.9	94.0
Harvested Area	81.4	83.9	87.0
Yield	152.8	146.7	161.5
Beginning Stocks	1,708	1,128	843
Production	12,447	12,310	14,051
Imports	28	15	30
Total Supply	14,183	13,453	14,923
Feed use	4,792	4,600	5,150
Food/Seed/Ind.	6,428	6,410	6,560
Ethanol	5,021	5,000	5,150
Domestic Use	11,220	11,010	11,710
Exports	1,835	1,600	1,950
Total Usage	13,055	12,610	13,660
Ending Stocks	1,128	843	1,263
Stocks/Use	8.6%	6.7%	9.2%
Farm Price	$5.18	$6.70	$5.25

Source: Source: USDA, NPKFAS

2012 Crop Budgets Clearly Favor Corn
($/Acre)

	Corn	Soybeans	Wheat	Cotton
Revenue				
Yield (bu/acre)	161.5	43.7	44.7	830.0
Avg. Season Price	$5.25	$11.50	$6.00	$0.90
Crop Revenue (per acre)	$848	$503	$268	$747
Total Revenue	$850	$503	$276	$881
Variable Costs / Acre				
Fertilizers	**$135**	**$24**	**$48**	**$85**
Seed Costs	$92	$62	$14	$85
Crop Protection Chemicals	$29	$18	$10	$70
Other (Fuel, Interest, Ins., Etc.)	$68	$40	$45	$248
Total Variable Costs	$324	$144	$117	$488
Return Over Variable Cost	***$525***	***$358***	***$159***	***$393***

Source: USDA, NPKFAS

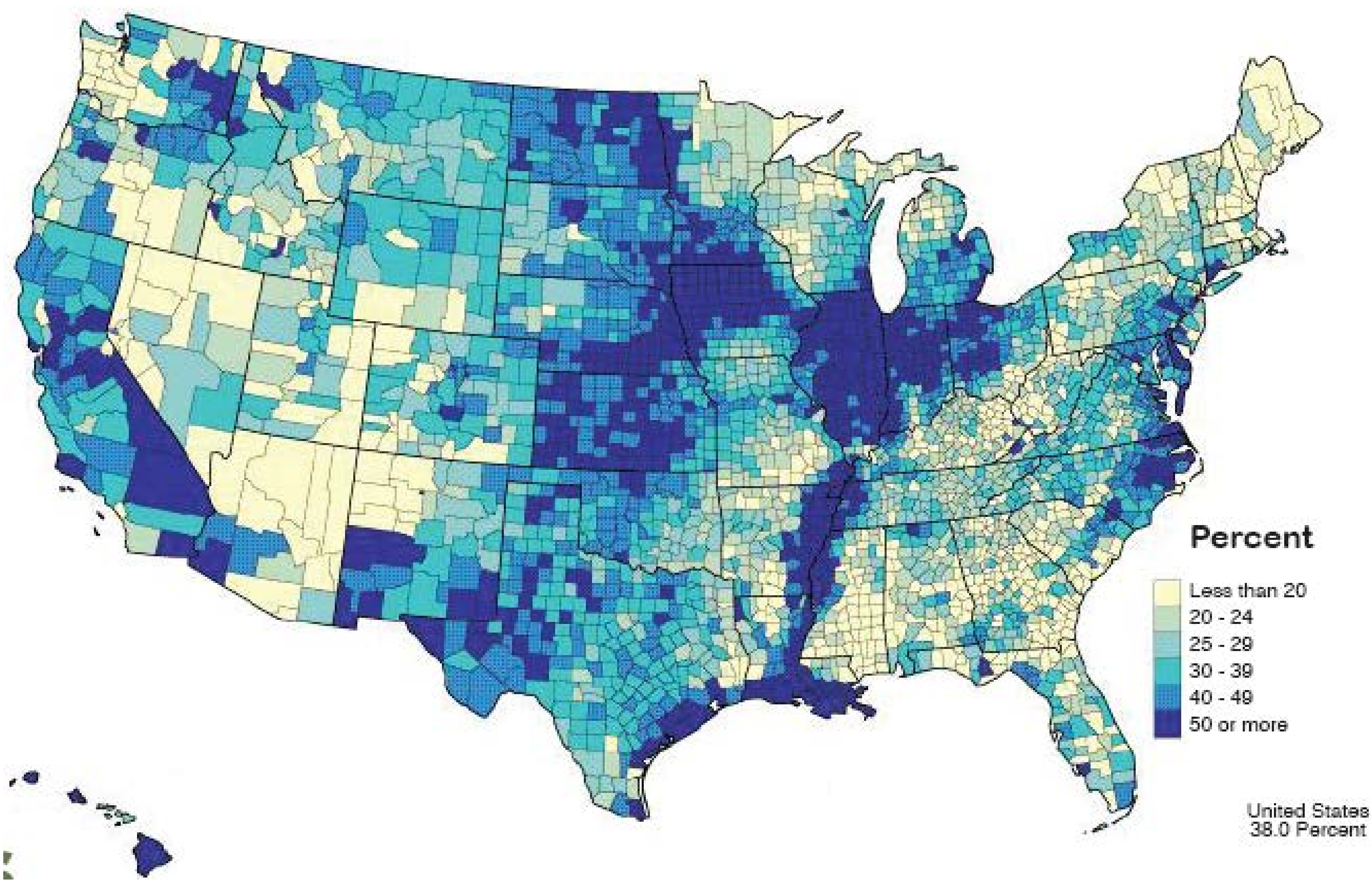
Returns Vary Significantly by Location

($/Acre)

Corn	**Heartland**	**Southern Seaboard**	**Northern Crescent**
Revenue			
Yield (bu/acre)	164.0	117.0	126.0
Avg. Season Price	5.25	6.00	5.30
Crop Revenue (per acre)	$862	$702	$669
Total Revenue	$862	$702	$674
Variable Costs / Acre			
Fertilizers	**$142**	**$144**	**$154**
Seed Costs	$94	$83	$94
Crop Protection Chemicals	$32	$28	$26
Other (Fuel, Interest, Ins., Etc.)	$56	$64	$69
Total Variable Costs	$324	$319	$343
Return Over Variable Cost	***$539***	***$383***	***$330***

Source: USDA, NPKFAS

Percent of Farmland Rented/Leased



Source: Census

Illinois Average Farmland Rental Values
($/Acre – Q1)

	Land Quality			
Year	Excellent	Good	Average	Fair
2007	183	164	144	120
2008	214	207	172	138
2009	267	221	187	155
2010	268	231	189	156
2011	319	271	220	183
2012	351	298	242	201

“Rental rates in the Corn Belt are up 70-90% over the last five Years”

Returns Vary Significantly by Location
($/Acre)

Corn	Heartland	Southern Seaboard	Northern Crescent
Revenue			
Yield (bu/acre)	164	117	126
Avg. Season Price	5.25	6	5.3
Crop Revenue (per acre)	$862	$702	$669
Total Revenue	$862	$702	$674
Variable Costs / Acre			
Fertilizers	**$142**	**$144**	**$154**
Seed Costs	$94	$83	$94
Crop Protection	$32	$28	$26
Other (Fuel, Interest, Ins., Etc.)	$56	$64	$69
Total Variable Costs	$324	$319	$343
Return Over Variable Cost	***$539***	***$383***	***$330***

Rental Value	***$250***	***$175***	***$210***
Cash Returns Incl. Land	***$289***	***$208***	***$120***

Source: USDA, NPKFAS

Corn/Corn vs. Corn/Bean Rotation Decision Not Quite as Clear ($/Acre)

Heartland	Corn/Bean	Corn/Corn
Revenue		
Yield (bu/acre)	163.3	145.3
Avg. Season Price	$5.14	$5.14
Crop Revenue (per acre)	$838	$746
Total Revenue	$840	$748
Variable Costs / Acre		
Fertilizers	**$131**	**$139**
Seed Costs	$29	$29
Crop Protection Chemicals	$88	$93
Other (Fuel, Interest, Ins., Etc.)	$71	$71
Total Variable Costs	$319	$332
Return Over Variable Cost	**$521**	**$416**

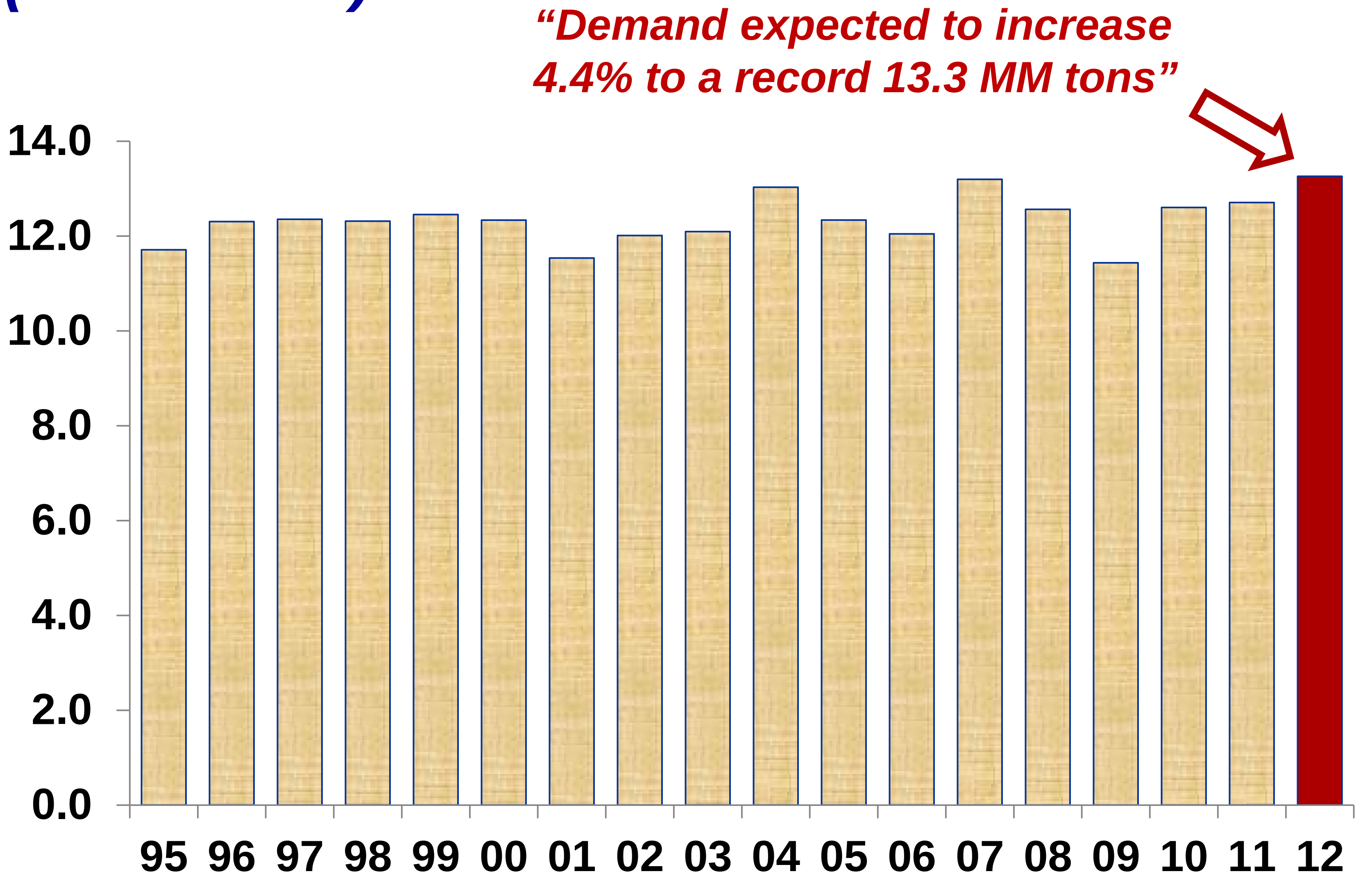
Source: USDA, NPKFAS

U.S. Planted Acreage Summary
(MM Acres)

	2009	2010	2011	2012	Change 2011-12
Corn	86.4	88.2	91.9	94.0	2.1
Soybeans	77.5	77.4	75.0	76.5	1.5
Wheat	59.2	53.6	54.4	59.0	5.6
Cotton	9.2	11.0	14.7	12.0	-2.7
4 Major Crops	232.3	230.2	236.0	241.5	5.5
Other Crops	87.3	91.0	90.0	90.0	0.0
Total Principal Crops	319.6	321.2	326.0	331.5	5.5

Source: USDA, NPKFAS

U.S. Nitrogen Fertilizer Demand
(MM Tons N)

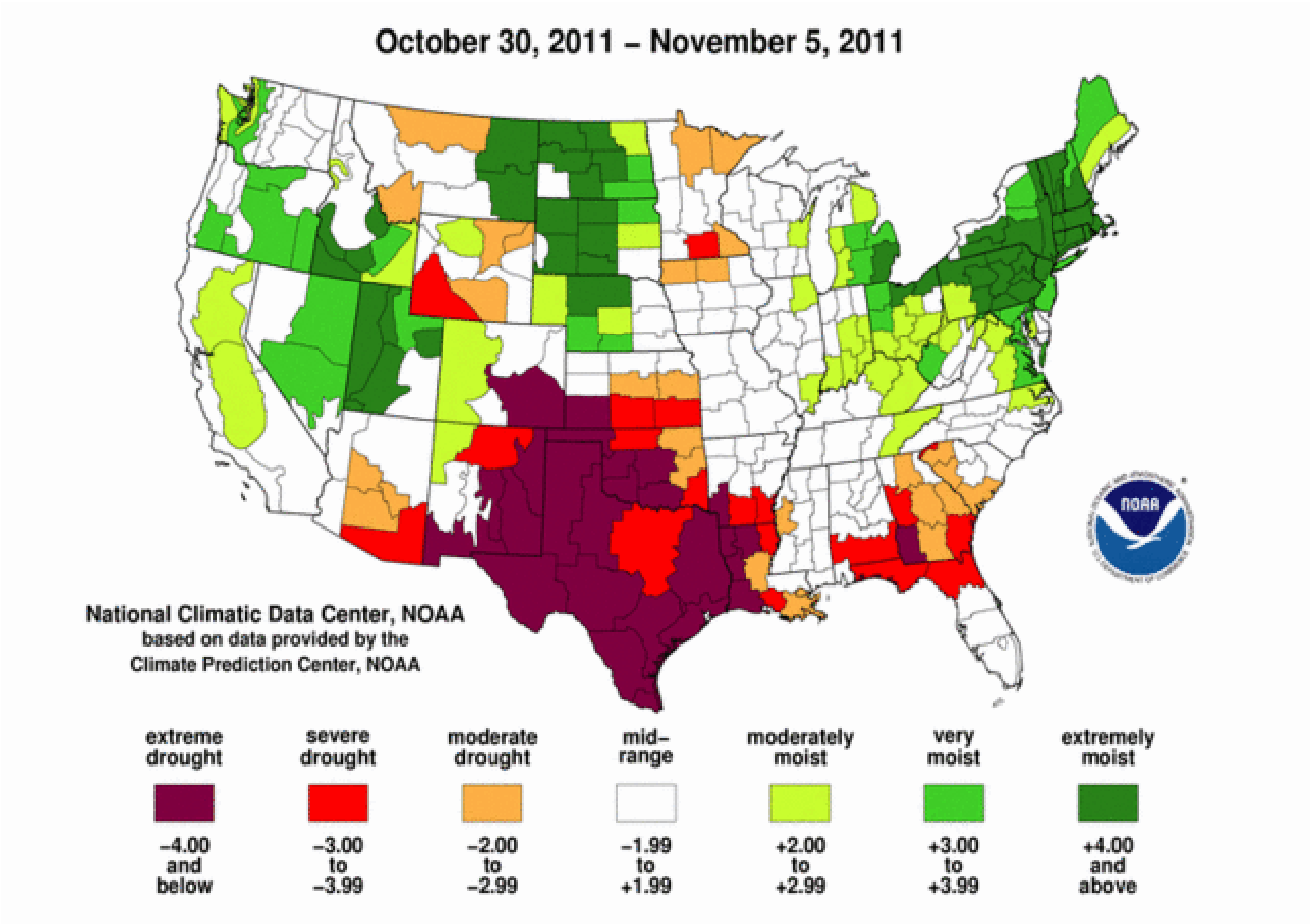


U.S. Fertilizer Demand by Product
(000 Nutrient Tons)

	2010	Est. 2011	Fct. 2012	% Change 2011-12
Nitrogen	**12,601**	**12,701**	**13,262**	**4.4%**
Ammonia	3,571	3,420	3,760	6.4%
Urea	3,389	3,466	3,592	5.0%
UAN	3,519	4,073	3,958	-2.8%

Source: TFI, AAPFCO, NPKFAS

NOAA Long-Term Drought Indicator

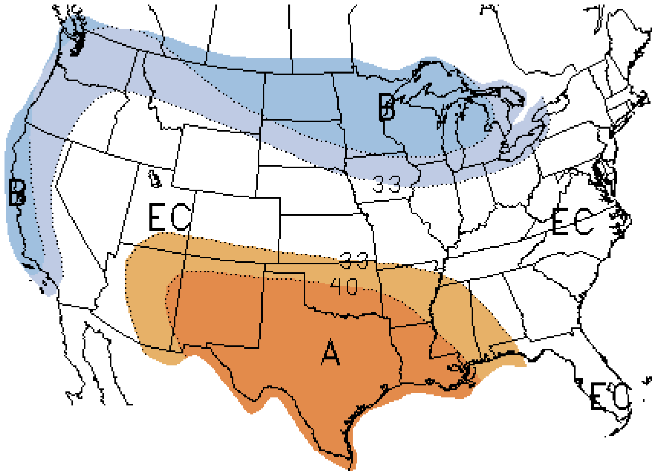


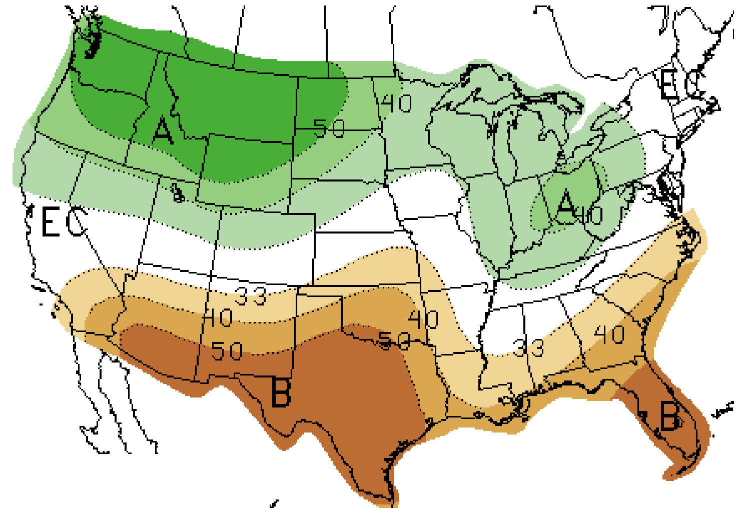
Source: NOAA

Above Normal Temp – Below Average Moisture Expected for Much of the South

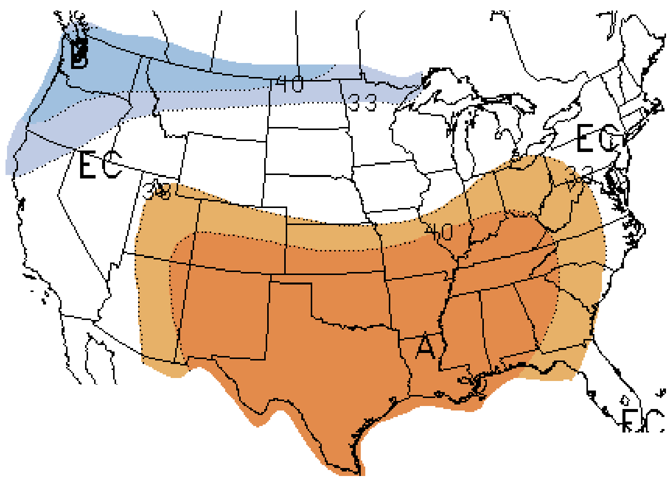
Temperature | Moisture

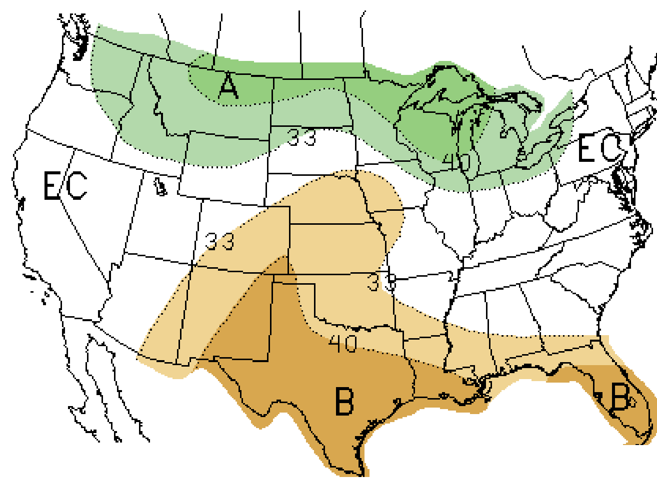
Dec-Feb





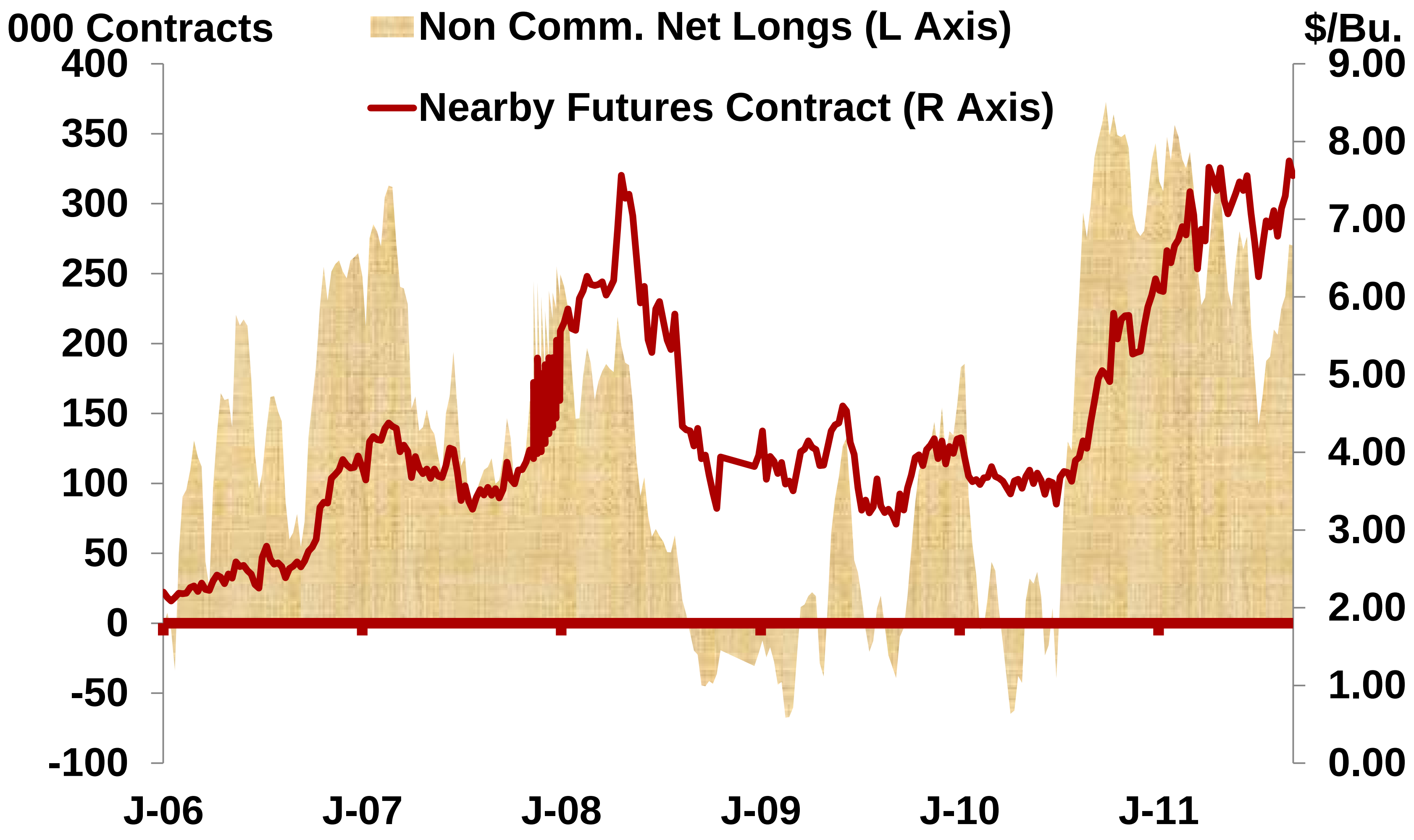
Mar-May





Source: National Weather Service

Non-Commercial Net Long Positions vs. Nearby Corn Contract



Source: CBOT

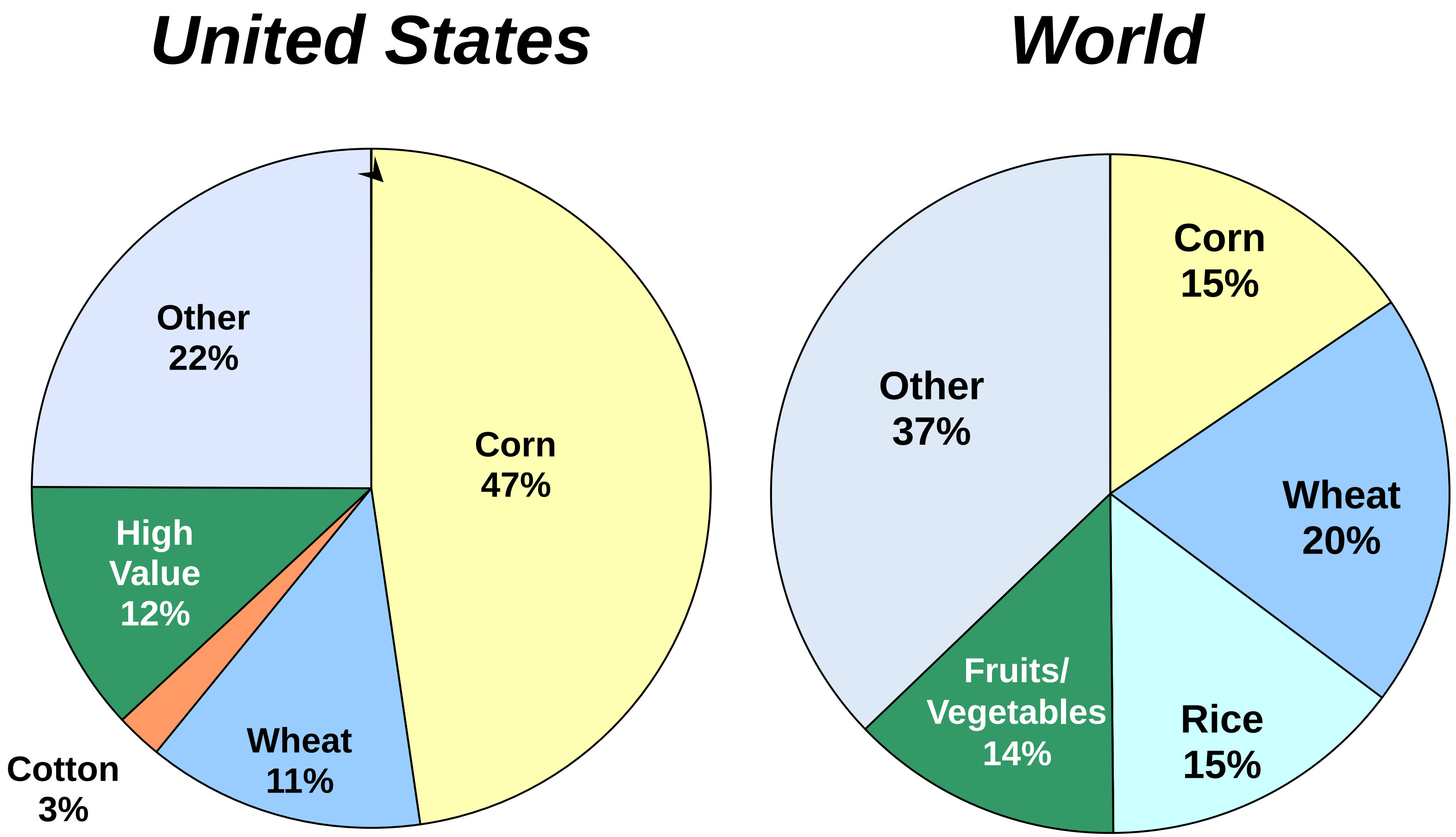
Fertilizer Supply/Demand Outlook

Overview

- **World demand expected to hit record levels**
  - **Continued recovery in the U.S.**
  - **Near Record Demand in India, China, L.A.**
- **S/D for nitrogen is expected to remain in somewhat of a tight position.**

However – Supply availability is expected improve over the tight conditions in 2011 as growth in capacity outpaces increase in demand

U.S. and World Nitrogen Demand Driven Mostly by Grains *(% of Total N Demand)*



Source: IFA, NPKFAS

World Food Consumption
(MM Tonnes)

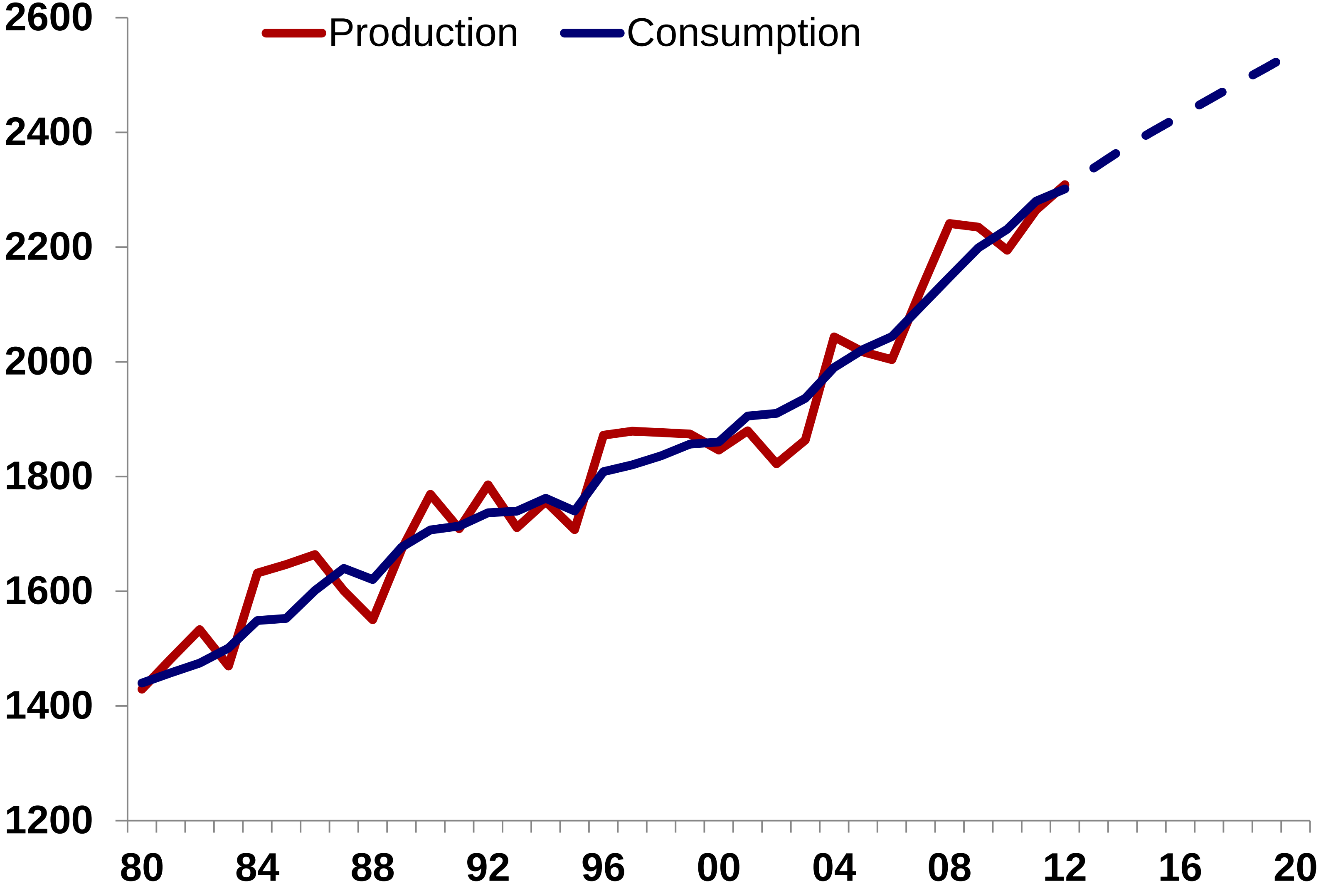
"World food demand is projected to grow at a CAGR of 1.4%, mostly in the coarse grains and oilseed sectors as consumers in developing countries improve diets."

				2008-18	
	2000	**2008**	**2018**	**Volume**	**CAGR**
Food Grains	**1,194**	**1,322**	**1,485**	**163**	**1.2%**
Coarse Grains	**875**	**1,026**	**1,229**	**202**	**1.8%**
Oilseeds	**110**	**133**	**167**	**34**	**2.3%**
Roots/Tubers	**679**	**764**	**875**	**112**	**1.4%**
Fruits & Vegetables	**1,221**	**1,339**	**1,494**	**155**	**1.1%**
Other	**194**	**247**	**316**	**69**	**2.5%**
Total	**4,274**	**4,831**	**5,567**	**736**	**1.4%**
Beef/Veal	**60**	**67**	**76**	**9**	**1.3%**
Pork	**90**	**100**	**115**	**14**	**1.4%**
Poultry	**69**	**84**	**107**	**23**	**2.4%**
Lamb	**11**	**13**	**16**	**3**	**2.1%**
Total Meat	**230**	**265**	**314**	**50**	**1.7%**
Milk (Cows)	**580**	**648**	**745**	**97**	**1.4%**

Source: FAO, NPKFAS

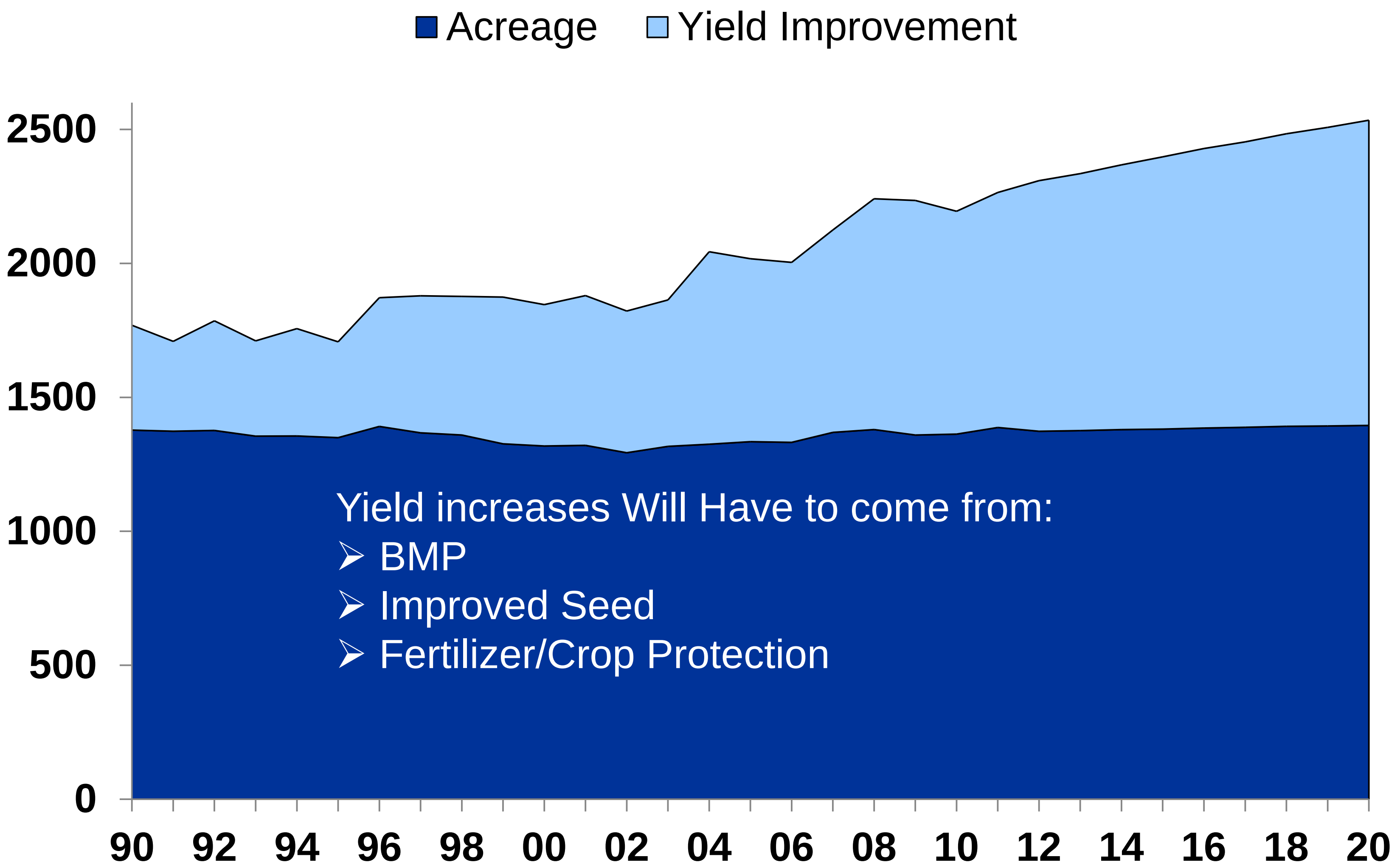
World Grain Supply/Demand

(MM Tonnes)



World Grain Production by Source

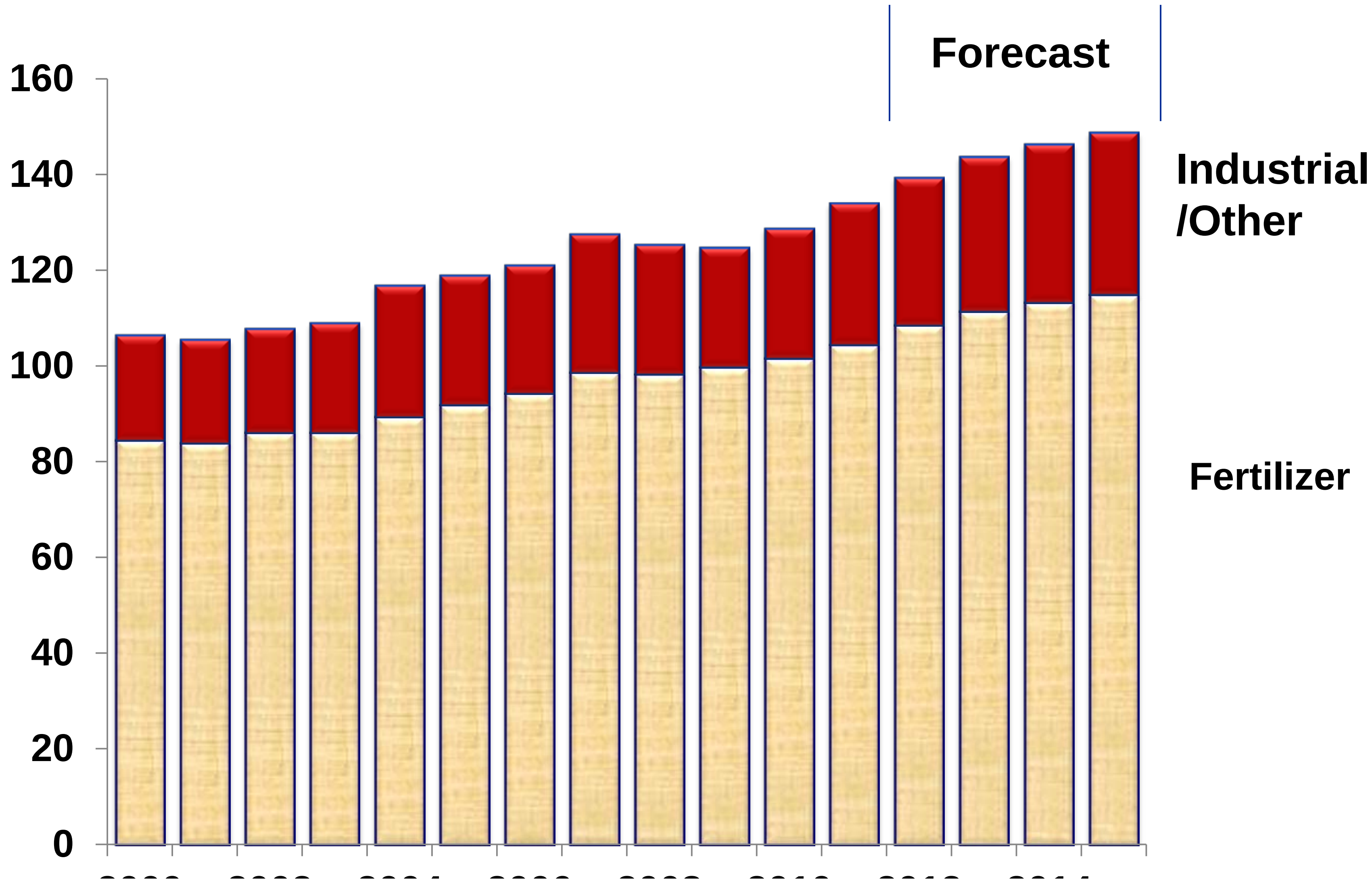
(MM Tonnes)



Source: USDA FAS, FAO, NPKFAS

World Nitrogen Demand

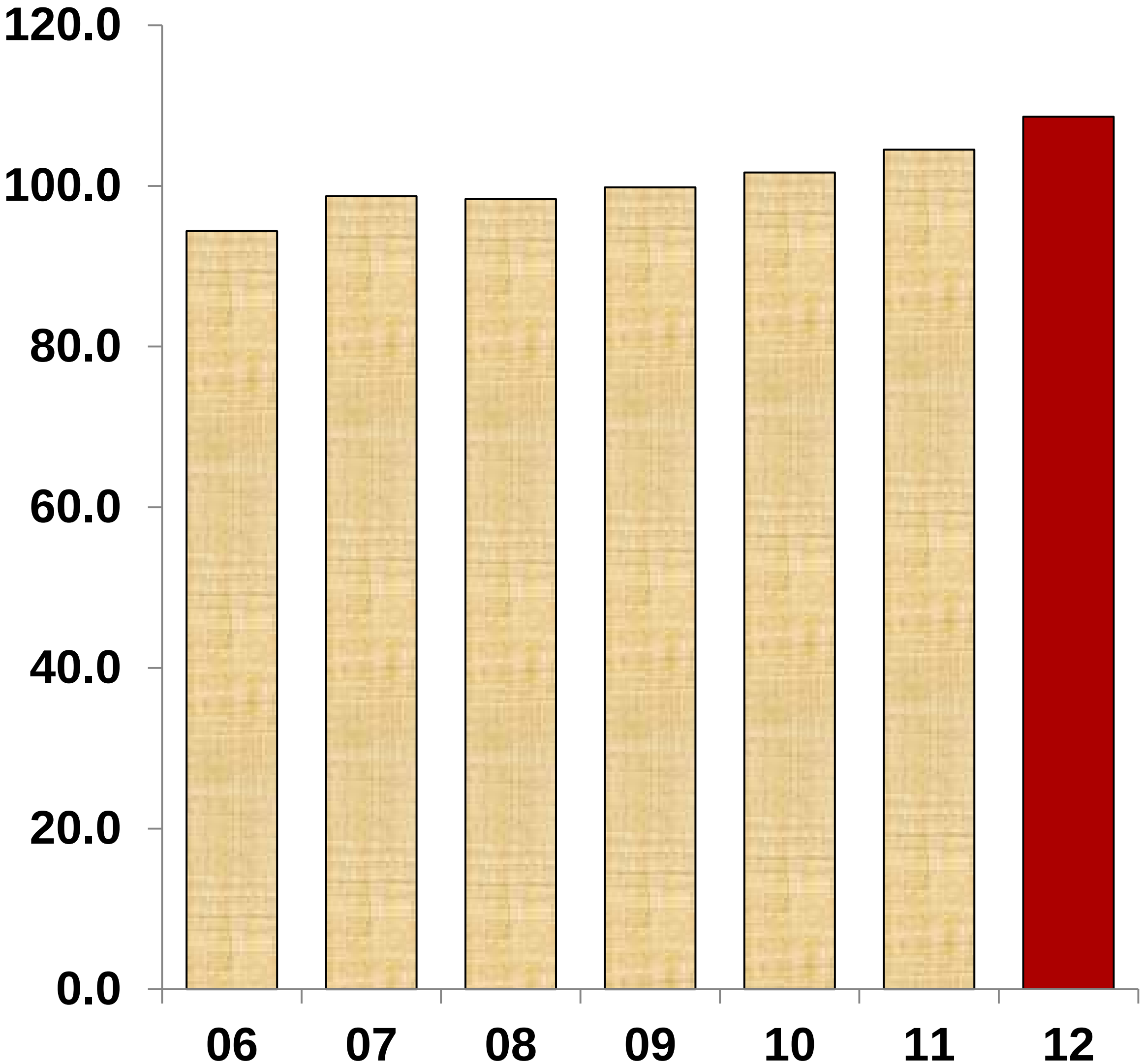
(MM Nutrient Tonnes)



Source: IFA, NPKFAS

World Nitrogen Fertilizer Demand

(MM Nutrient Tonnes)



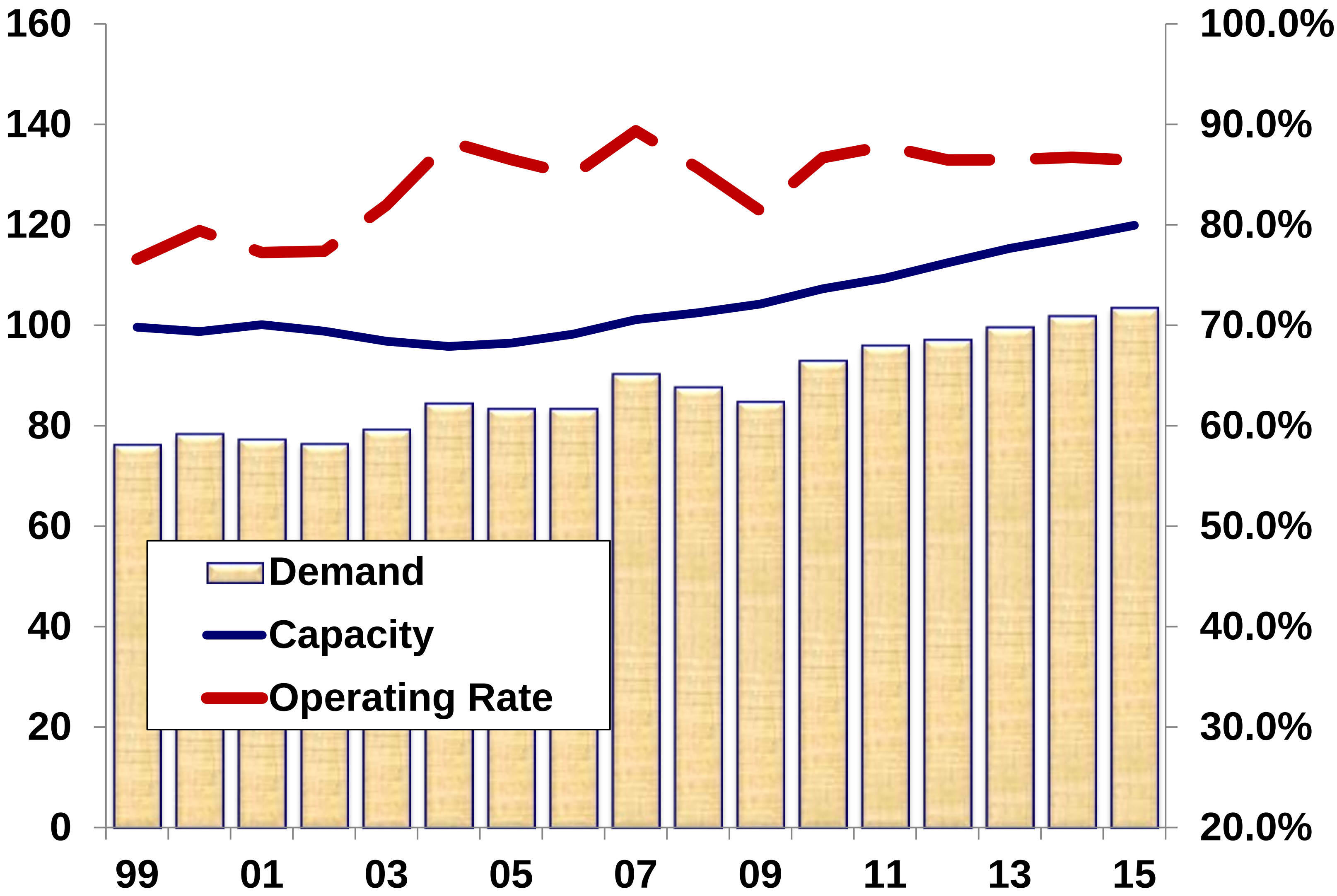
	Nitrogen
2006	94.8
2007	99.5
2008	99.1
2009	100.3
2010	101.9
2011	104.7
2012	108.8
% Change	3.9%

World Ammonia/Urea Project List
(000 Product Tonnes)

Country	Company	Month	Ammonia	Urea
CY 2011				
Qatar	QAFCO 5	October	759	1271
Saudi Arabia	Ma'aden	Feb	1089	
Myanmar	Petrochemical Industries	January	107	165
Pakistan	Engro Chemicals Pakistan Ltd	April	750	
France	GPN	February		360
Netherlands	Yara	July		1155
Pakistan	Engro Chemicals Pakistan Ltd	April		1300
China	Various		5320	7880
2011 Total			8025	12131
CY 2012				
Russia	CJSC Agro Cherepovets	October		495
Algeria	EDEOLA 1	October	660	1271
Algeria	EDEOLA 2			1271
Algeria	Sorfert	January	726	1155
Algeria	Sorfert	July	726	
Egypt	Egyptian Nitrogen Producing Company (ENPC) 1	April	396	635
Egypt	Egyptian Nitrogen Producing Company (ENPC) 2	July	396	635
Qatar	QAFCO 5	February	759	1271
Vietnam	Ninh Binh Fertilizers & Chemicals (Vinachem)	January	330	580
Vietnam	Petrovietnam Fertilizer and Chemical Company	April	450	787
Australia	Incitec Pivot Ltd	June	149	
Venezuela	Pequiven	July	594	726
China	Various		4581	5950
			9767	14776

Sources: IFDC, IFA , Industry Reports

World Nitrogen Supply/Demand Balance Ex China *(MM Tonnes N)*



U.S. Urea Import Requirements for FY2012

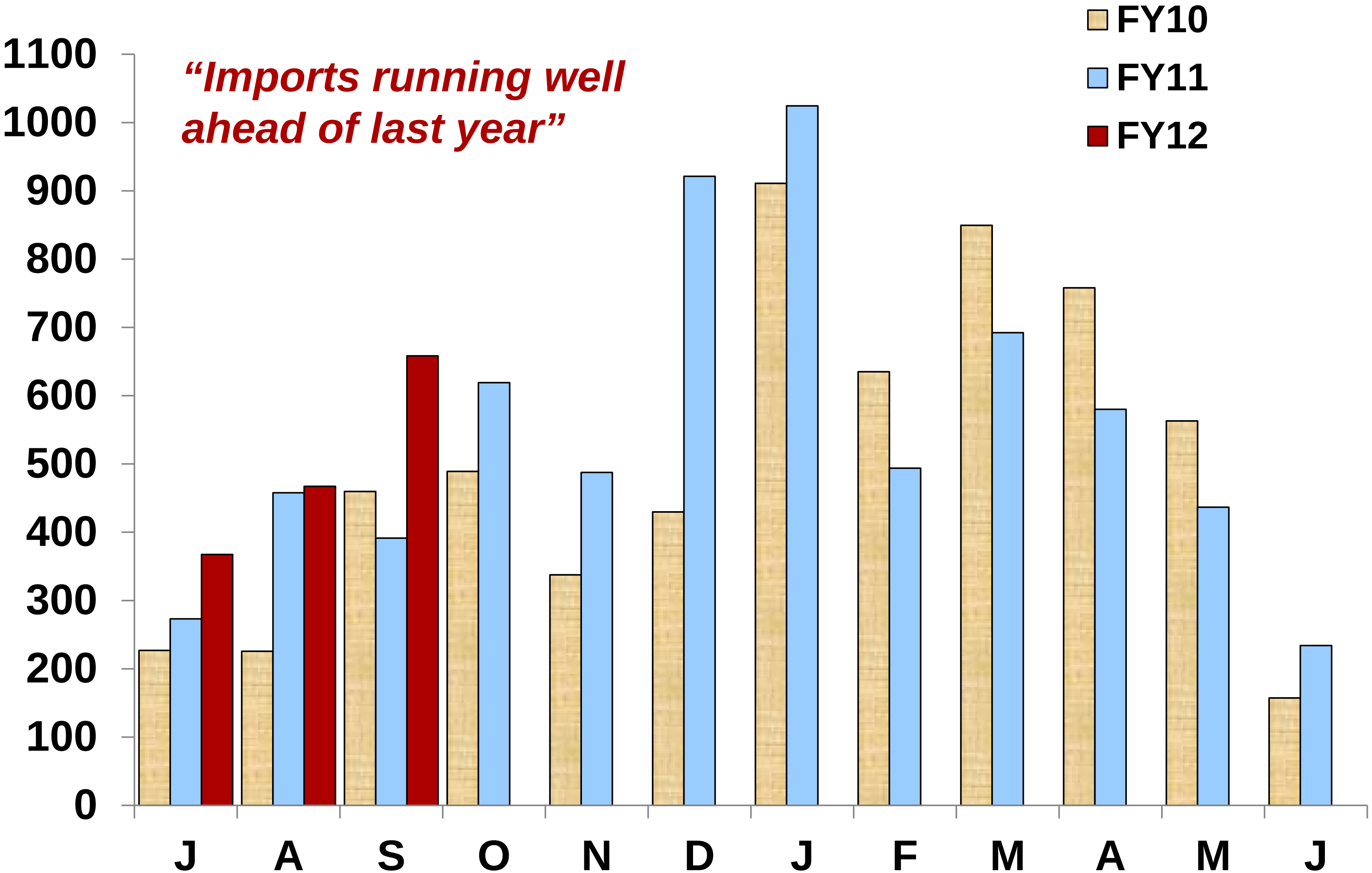
(MM Product Tons)

Fertilizer Years	2010	2011	Fct. 2012
Demand			
Ag Consumption	7.37	7.54	7.81
Industrial/Other	1.46	1.86	1.92
Exports	0.16	0.21	0.17
Total Demand	8.99	9.61	9.90
Supply			
Production	2.97	2.96	3.22
Required Imports	6.04	6.61	*6.71*

Source: TFI, DOC, NPKFAS

U.S. Urea Imports

(000 Product Tons)



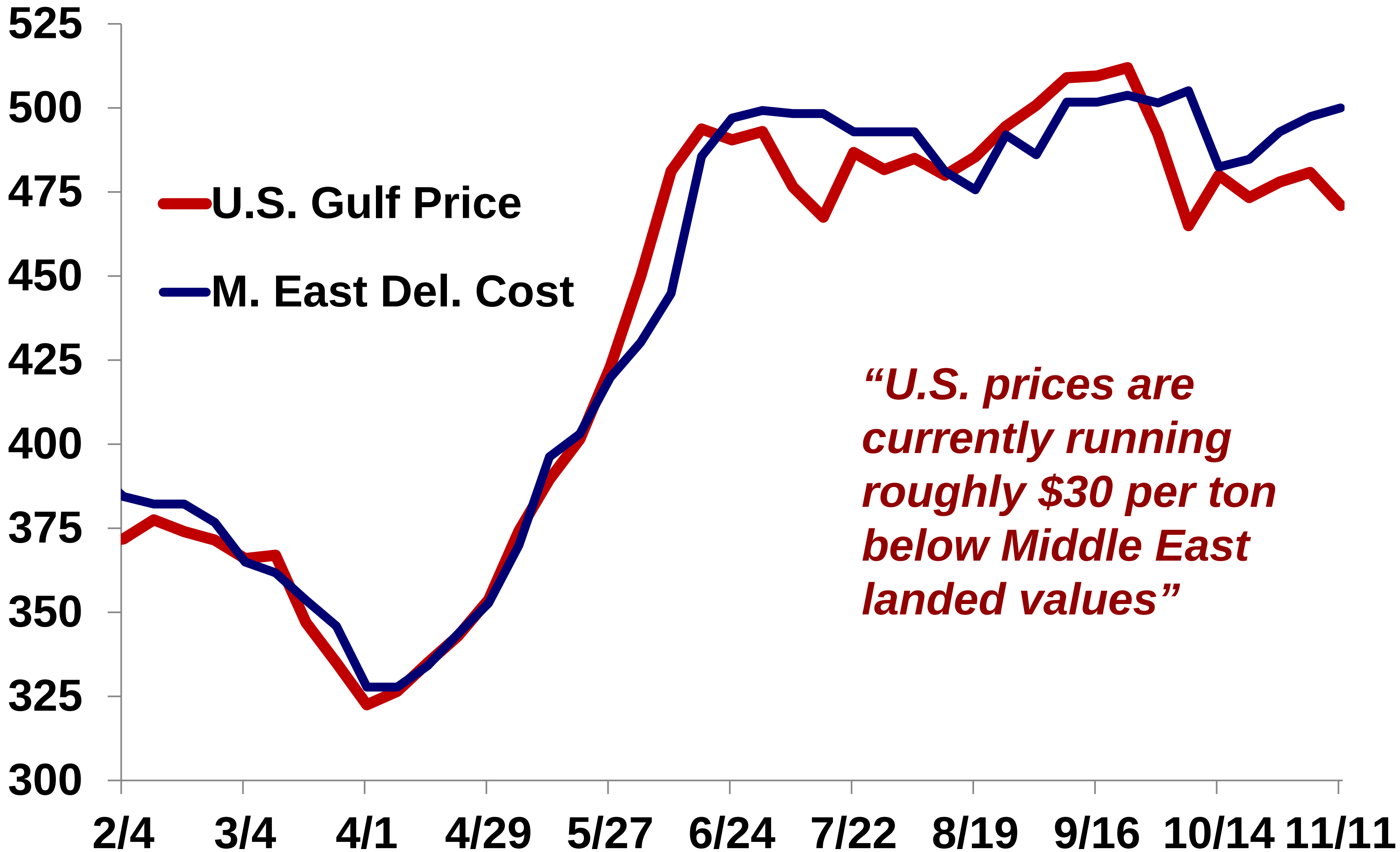
- Source: TFI, DOC, NPKFAS

U.S. Urea Imports by Source
(000 Product Tons)

FY	2008	2009	2010	2011	% of Total
Canada	1,749	1,770	1,896	1,851	28%
Offshore					
Trinidad	474	483	374	424	6%
Middle East	1,968	2,225	1,942	2,304	35%
China	1,175	254	427	727	11%
Egypt	180	242	564	487	7%
Other	1,010	778	839	818	12%
Sub-Total	4,807	3,981	4,146	4,760	72%
Total	6,556	5,751	6,042	6,611	100%

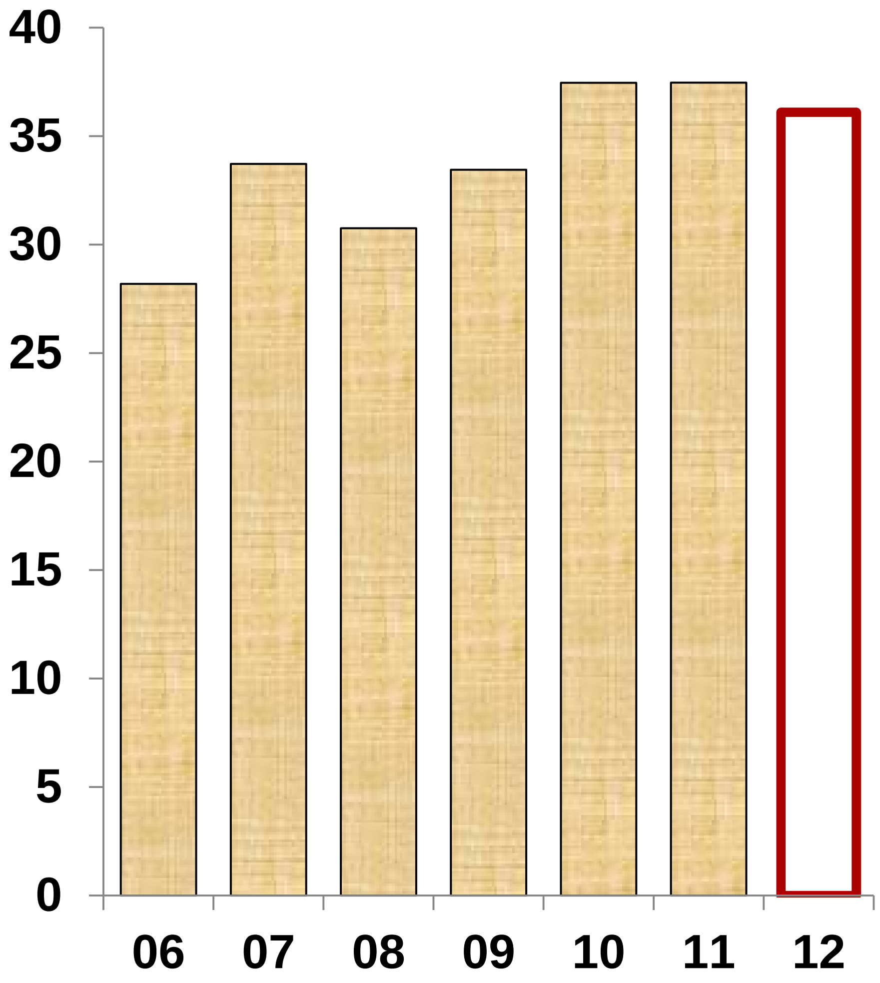
Source: US DOC

U.S. Gulf Urea Barge Price vs. Middle East Delivered Cost ($/ton)



- Source: NPKFAS, Industry Sources

World Urea Imports
(MM Product Tonnes – Calendar Year Basis)

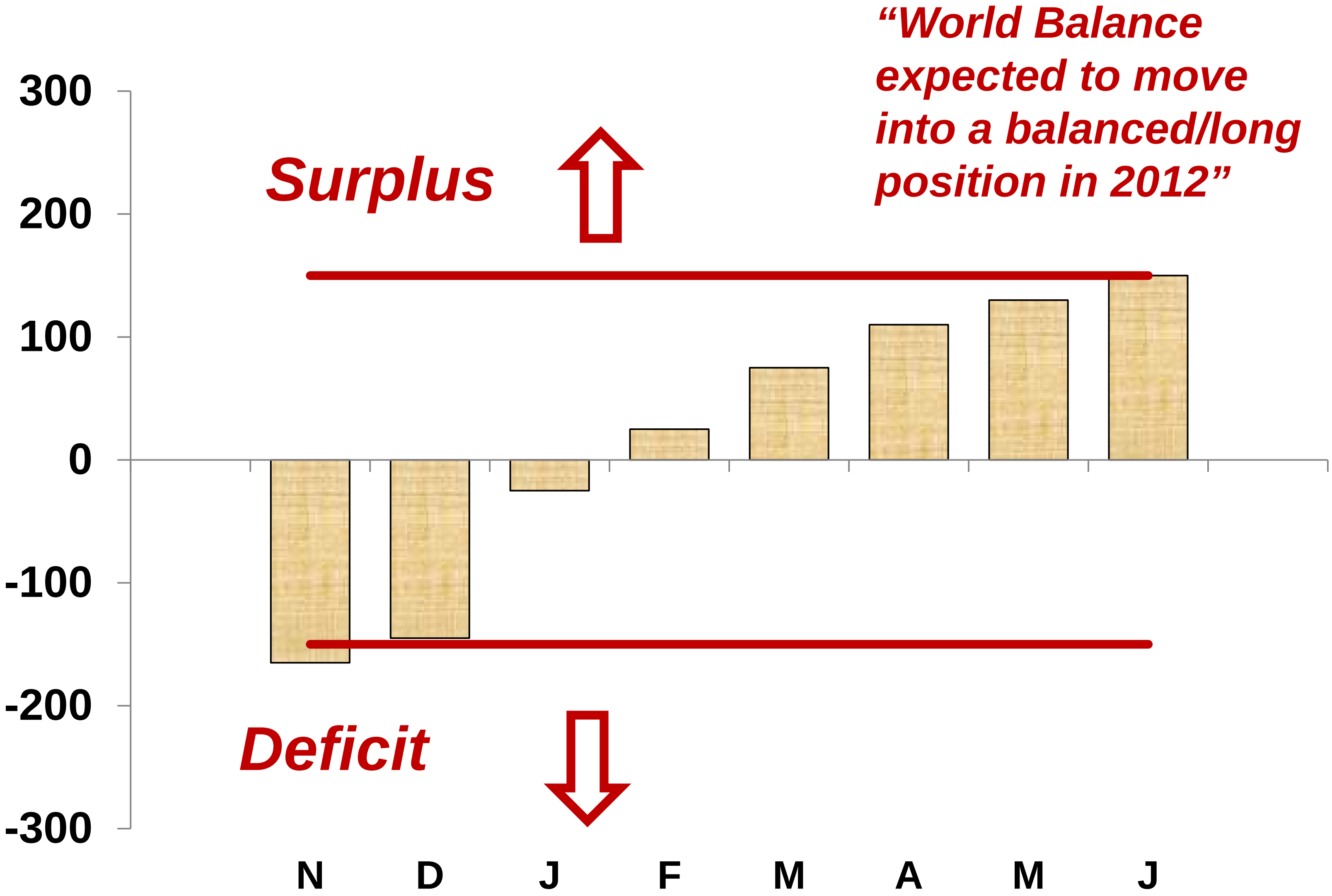


	2009	2010	2011	2012
U.S.	4.70	6.32	5.65	6.09
W. Europe	4.63	4.53	3.88	4.24
L. America	5.67	6.62	7.11	6.93
India	5.47	6.10	7.30	6.73
Rest of Asia	8.50	7.85	8.14	7.90
Other	4.48	6.04	5.39	5.01
World Total	33.45	37.46	37.77	37.00

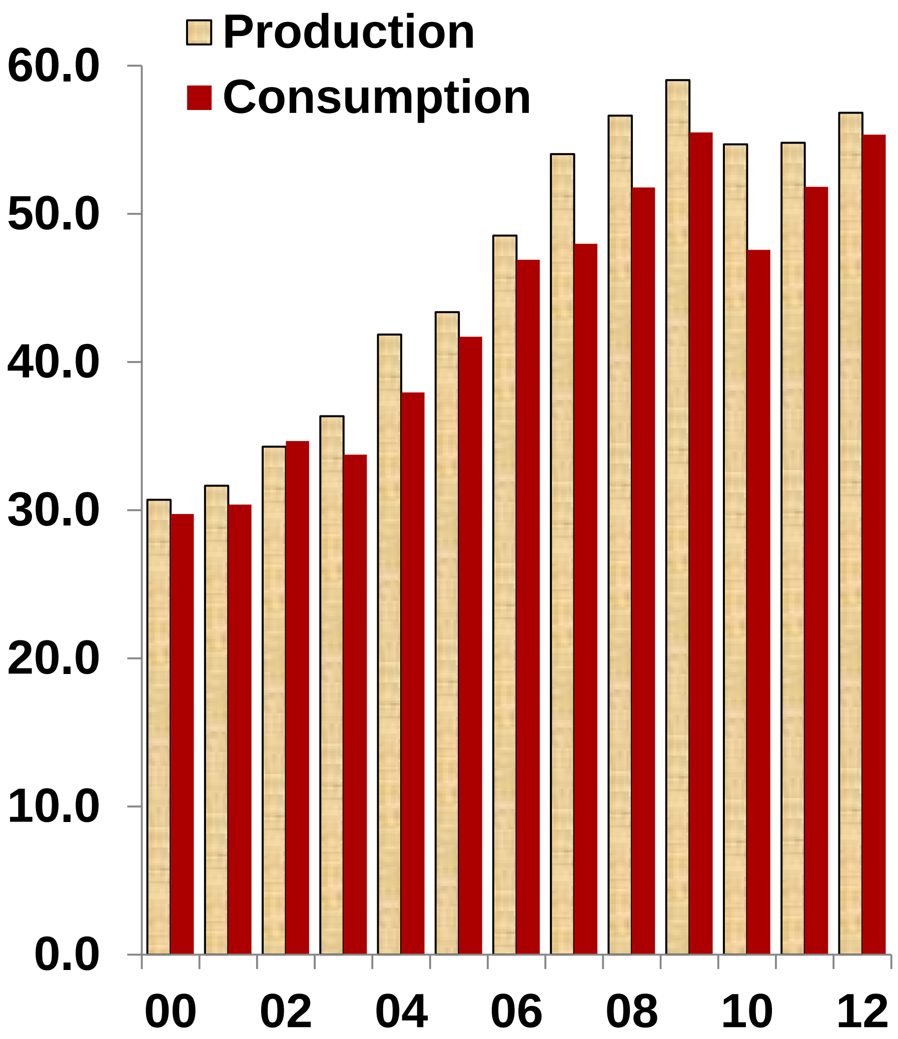
"World imports expected to decline marginally in 2012 from the record levels of the previous two years"

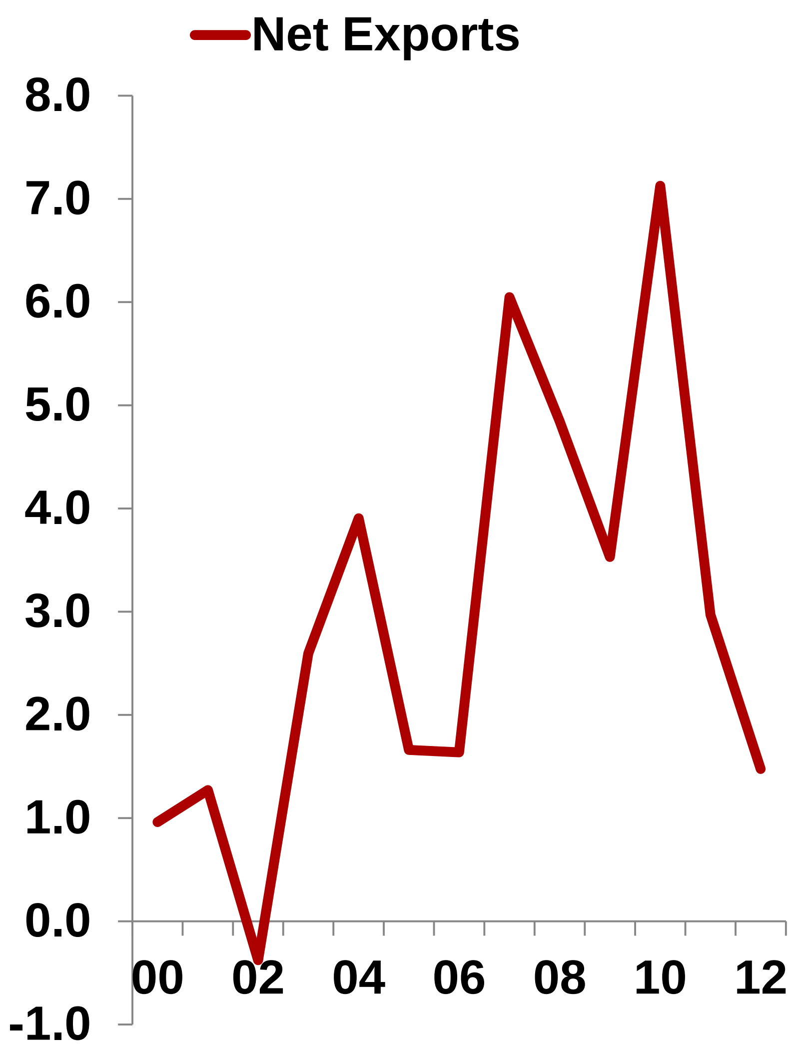
- Source: IFA, NPKFAS, Country statistics, Industry sources

World Urea Trade Balance
(000 Tonnes)



Chinese Urea Balance *(000 Product Tonnes)*



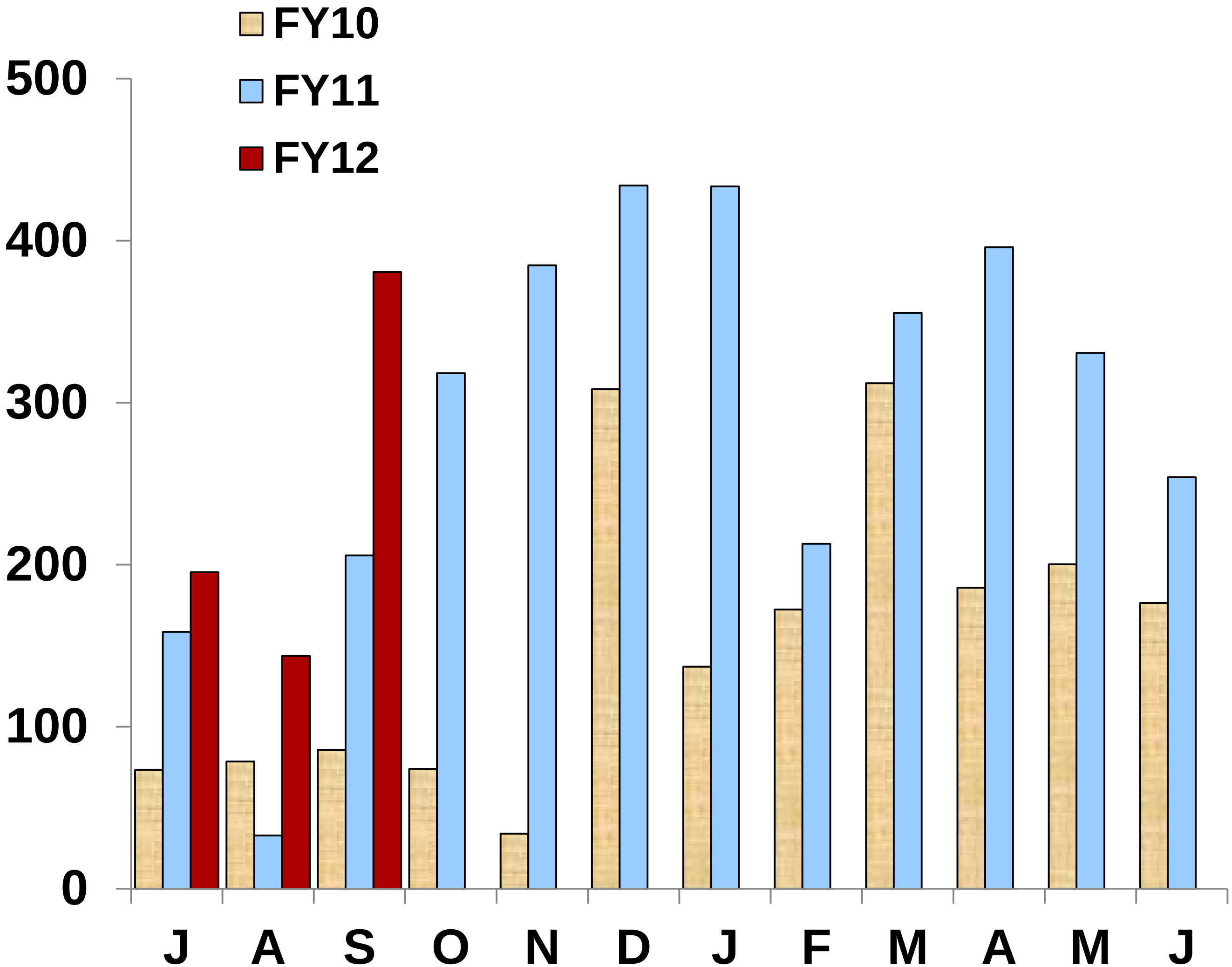


♦ **Source: IFA, NPKFAS, Industry sources**

U.S. UAN Import Requirements for FY2012
(MM Product Tons)

FY	2010	2011	2012
Demand			
Ag Consumption	10.82	12.73	12.37
Exports	0.30	0.22	0.03
Other/Inv. Change	-0.24	0.04	-0.02
Total Demand	10.88	12.99	12.38
Supply			
Production	9.05	9.47	9.63
Required Imports	1.84	3.52	*2.75*
	10.88	12.99	12.38

U.S. UAN 32% Imports
(000 Product Tons)

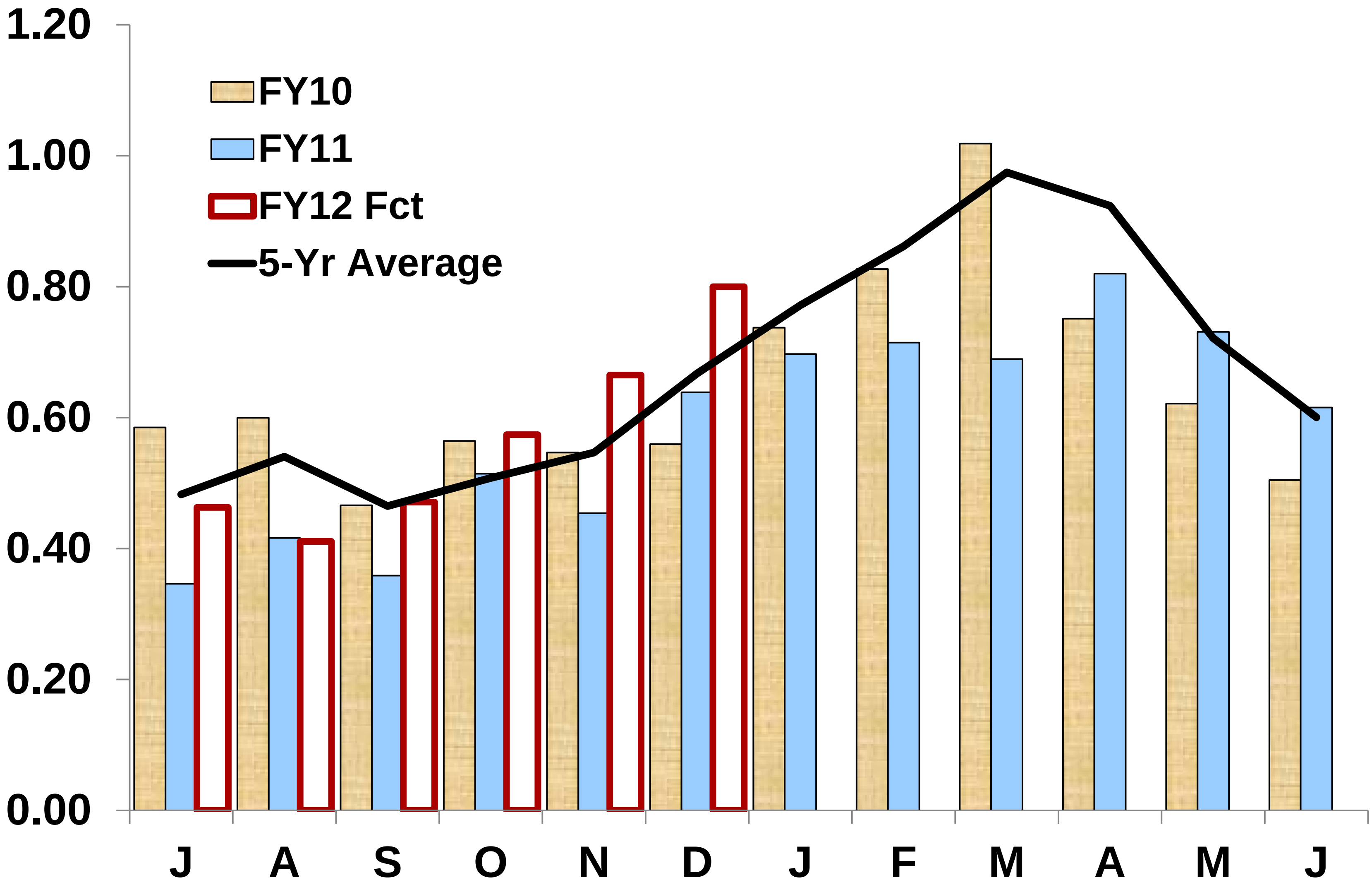


	FY Totals
FY06	2.83
FY07	2.39
FY08	3.49
FY09	1.60
FY10	1.84
FY11	3.52
FY12	2.75

- Source: TFI, DOC, NPKFAS

U.S. UAN Producer Inventory

(000 Product Tons – 32% Material)



- **Source: TFI, DOC, NPKFAS**

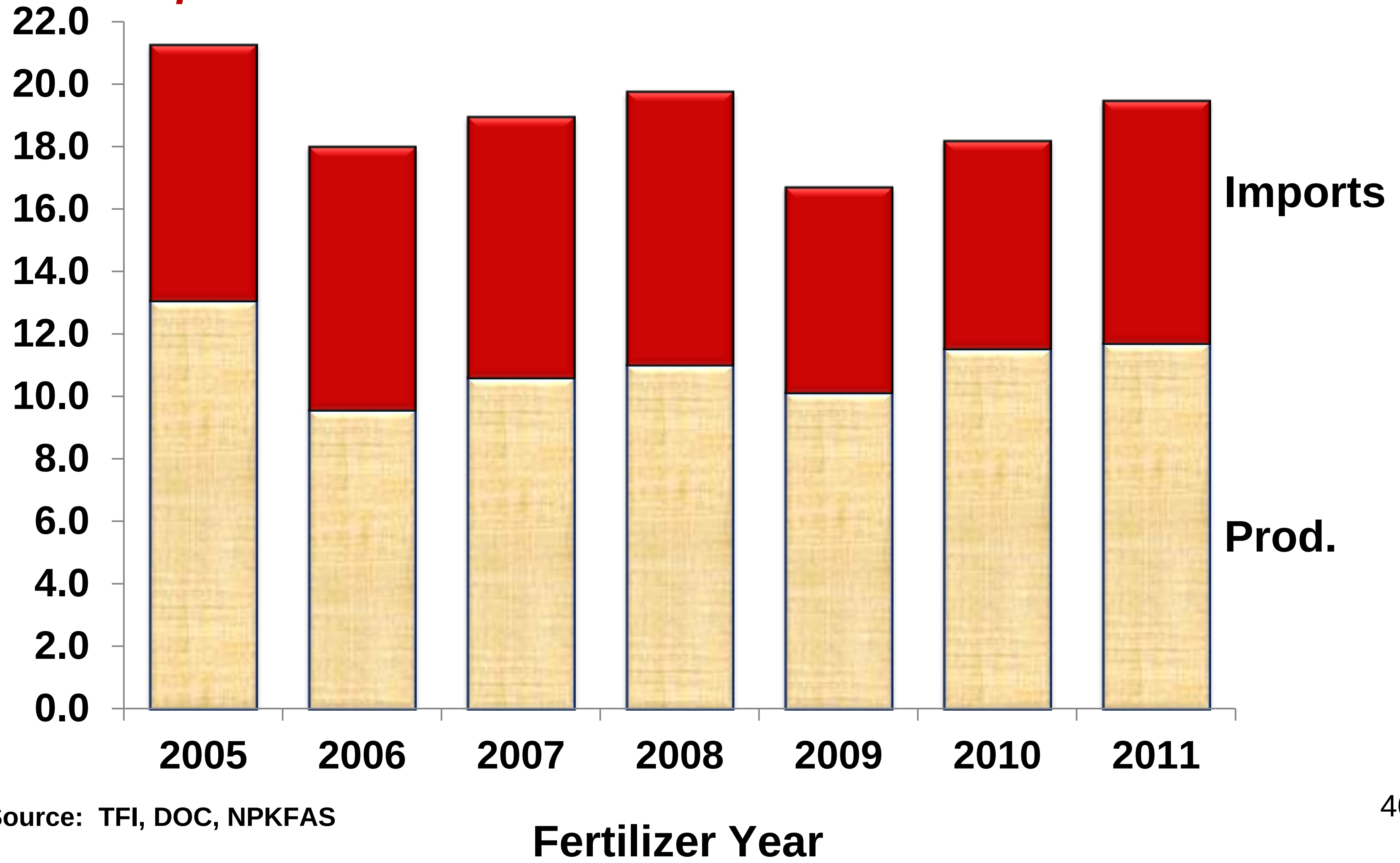
U.S. UAN Capacity
(000 tons 32% Material)

	FY11	FY12	% of Total Capacity	 Cumulative
CF	6,240	6,490	51.2%	51.2%
PCS	2,023	2,023	16.0%	67.1%
Koch	1,085	1,085	8.6%	75.7%
Agrium	870	870	6.9%	82.5%
CVR	738	738	5.8%	88.4%
LSB	705	705	5.6%	93.9%
Rentech	390	390	3.1%	97.0%
Dyno Nobel	272	272	2.1%	99.1%
Trademark	110	110	0.9%	100.0%
	12,433	12,683	100%	

Source: IFDC

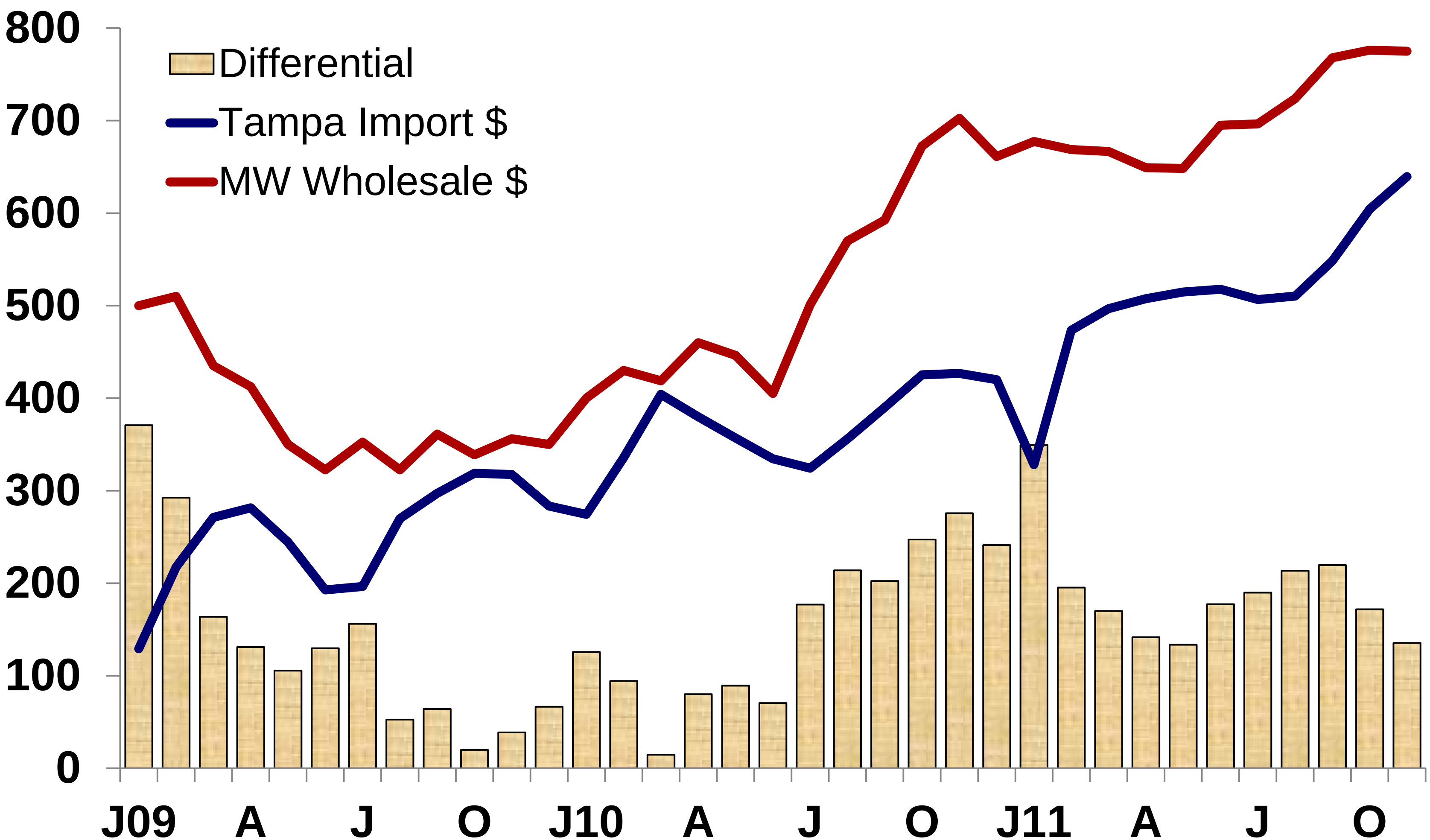
U.S. Ammonia Supply *(MM Tons)*

"Imports account for roughly 40% of U.S. ammonia supply. However, the vast majority is used in DAP/MAP production and in the industrial sector"



- Source: TFI, DOC, NPKFAS

U.S. Tampa Ammonia Import Price vs. MW Wholesale Price ($/ton)



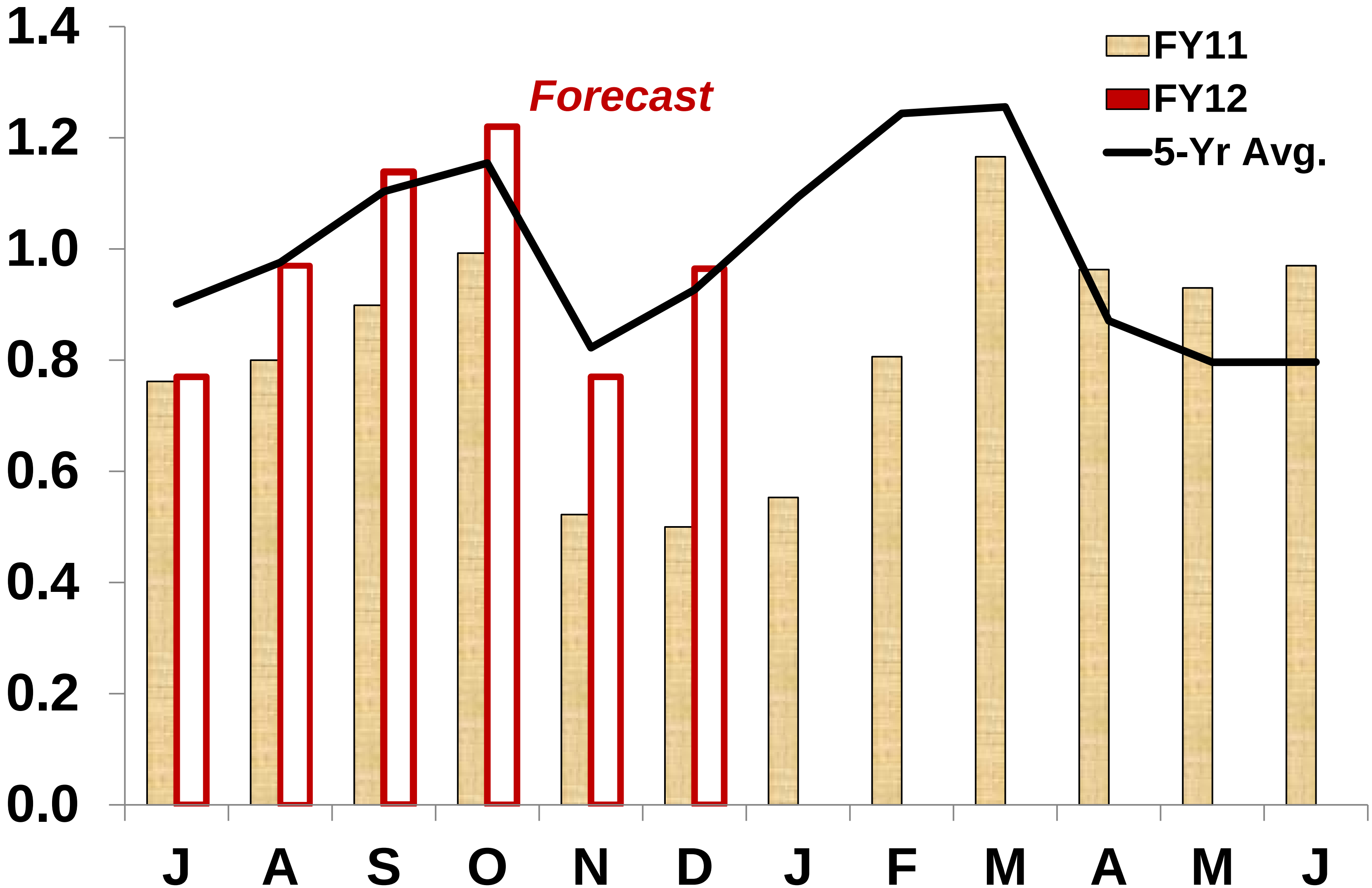
Limited MW Ammonia Supply

Lack of Infrastructure to offload and move imports to the Midwest Ag markets

- **Limited Offloading**
- **Limited distribution system - Port to MW**
- **Limited storage capabilities downstream**

Fall S/D - Mostly fixed supply facing potentially another strong application season

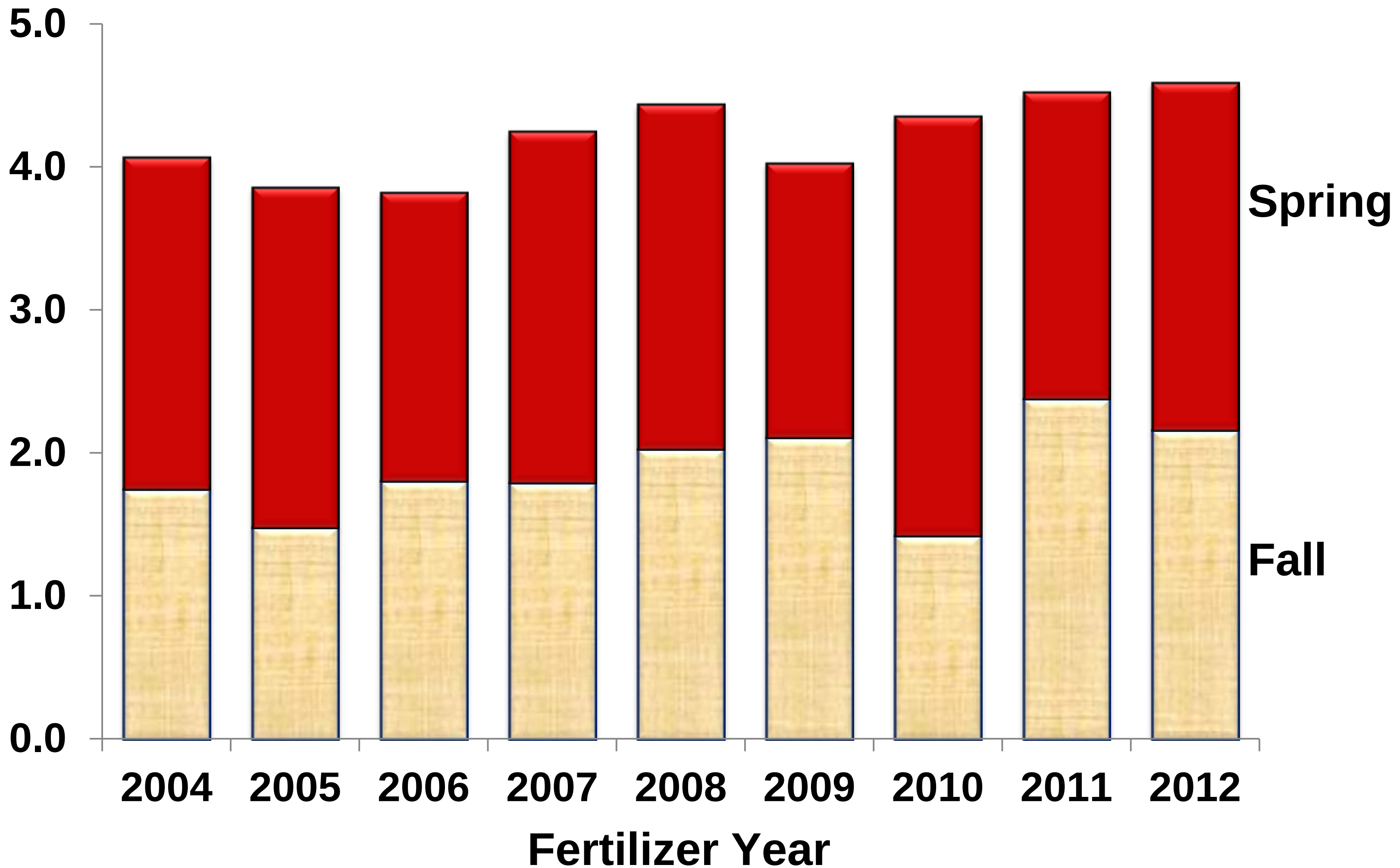
U.S. Producer Ammonia Inventory
(MM Product Tons)



Source: TFI, DOC, NPKFAS

U.S. Ammonia Fertilizer Demand *(MM Tons)*

"Fall demand expected to be down from last year's near record setting pace, but above historic averages"



Fertilizer Supply/Demand Outlook

Overview

- **World demand expected to hit record levels**
  - **Continued recovery in the U.S.**
  - **Near Record Demand in India, China, L.A.**
- **S/D for nitrogen is expected to remain a somewhat of a tight position.**

However – Supply availability is expected improve over the tight conditions in 2011 as growth in capacity outpaces increase in demand

QUESTIONS?

Glen Buckley
glen@npkfas.com
www.npkfas.com