The European Fertilizer Market
St. Petersburg November 2011
Roughly 20% of global grain production in Europe

Source: USDA
Nitrogen consumption – now increasing

Source: IFA, Fertilizers Europe. West Europe is EU15, Central Europe is EU12, the new member states
Today EU produce more crops with less nitrogen consumption

Today Europe has the highest Nitrogen Use Efficiency (NUE) of any region in the world.
Phosphate consumption – rebound after the crisis

Source: IFA, Fertilizers Europe
Potash consumption – rebound after the crisis

Source: IFA, Fertilizers Europe
Application on wheat – huge variation

Source: IFA, Fertilizers Europe (2010/11 season), FAO (2007/08 season for Russia)
Yields reflect the nutrient application rates

Source: Fertilizers Europe (2008/09 season), FAO (2009 for Russia)
Nitrate is the preferred product in Europe

**EU 27**
10 million tons of N

- AN-CAN 47%
- UREA 19%
- UAN 12%
- NPK/NK/NP 13%
- OTHER 4%
- DAP 2%
- SA 3%

**World**
100 million tons of N

- UREA 56%
- Other N straight 8%
- NH3 direct application 4%
- NPK/NK/NP 8%
- AN - CAN 8%
- UAN 5%
- DAP 8%
- SA 3%

Source: Fertilizers Europe
Nitrate-based fertilizers are superior to urea both ergonomically and environmentally

The agronomical efficiency of nitrates is superior to urea

Nitrates have lower ammonia volatilization losses

The carbon footprint is lower than for Urea

Nitrogen recovery (% of AN)

Average Emission Factor, Cereals

Lifecycle carbon footprint (kg CO₂ eq/kg N)

Urea requires up to 20% higher N application to achieve same cereal crop yield and quality as AN

Urea and UAN with a 30% market share of EU nitrogen fertilizers cause 88% of its ammonia emissions

Although urea is more CO₂ efficient in production, CO₂ emissions and ammonia volatilization on application more than offset for this

Source: DEFRA (2006), NT26 project report; Fertilizer Europe; 2EMEP/EEA air pollutant emission inventory guidebook (2007); Yara
Supply balances – main nitrogen products

Source: IFA 2010, only ammonia, urea and solid nitrates. Regions follow IFA classifications
Supply balances – main phosphate products

Million tons P2O5

Source: IFA 2010, only rock, acid and DAP/MAP/TSP. 33% P2O5 assumed in traded rock
Supply balances – potash

Million tons K2O

-2.0
-1.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0

West Europe - Production
West Europe - Net trade
Central Europe - Production
Central Europe - Net trade
Eastern Europe - Production
Eastern Europe - Net trade

Source: IFA 2010
Slow start to the season in West Europe

**Previous seasons**

<table>
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<th>Year</th>
<th>Domestic</th>
<th>Imports</th>
<th>Total</th>
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<td>3.2</td>
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<td>4.5</td>
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<tr>
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<td>5.0</td>
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<td>8.0</td>
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<tr>
<td>10/11</td>
<td>5.3</td>
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**So far this season**

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Source: Yara estimate for nitrogen fertilizer deliveries to selected West European countries.