fertilizers europe

Greening agriculture
The views of the industry

Fertilizers Europe

Green Growth and Nitrogen
Copenhagen - 25 April 2013

Agriculture

Partnership for growth
Sustainable agriculture in Europe

Actions and commitment of the industry

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Actions initiated by the industry
To address nitrogen use efficiency
And agriculture productivity

From Good Agriculture Practice
to Product development and Innovation

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Content

- **Promoting Good Agriculture Practices**
- **Product development**

New types of actions and projects:

- **The DAN (Directly Available Nitrogen) campaign**
- **Full LCA carbon foot print calculator**

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Promoting Good Agriculture Practices

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Good Fertilization Practice towards a more productive agriculture

- **Best practice and balanced fertilization**
  - Improving and monitoring Nitrogen Use Efficiency
    development of an indicator under work
  - Use of precision farming techniques (*right rate at right time*)
  - Localization and/or incorporation (*right place*)

- **Integrated approach of environmental protection**
  - Vertical: Life Cycle approach
  - Horizontal: Interactions between environmental compartments
    >> towards **Sustainable Farming Systems (IFM)**

- **The Key issue: bringing science to the fields**
  Improve extension of scientific and practical knowledge onto farm:
  >> a policy, organizational and communication issue

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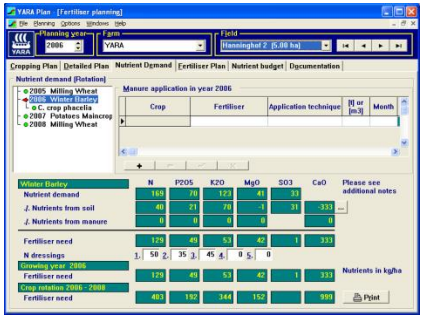
Precision farming tools towards Good Fertilization Practice

Software and crop monitoring tools help to calculate the right nutrient rate and apply it at the right time



=> these tools helped to improve Nitrogen Use Efficiency

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Product development

- **Improved understanding and use of recycled products on farm**
  Better use efficiency of their nutrients
  - Coordinated use of all nutrient sources - Fully applicable for P
  - Can be facilitated by new regulation

- **Improving nutrient release**
  - Better control of nutrient availability:
    - **Urease inhibitors**
    - **Nitrification inhibitors**

  - **Using the appropriate nitrogen form, nitrate vs urea (*right product*)**

(see DAN campaign)

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The DAN* Fertilizer campaign

*** Directly Available Nitrogen**

DAN fertilizer campaign

- Society requires solutions:
  - Higher productivity in European agriculture
  - Better environmental protection
  - Sustainable use of natural resources in agriculture

Providing solutions - #yesweDAN

4 Benefits of DAN fertilizers

- Agronomic
- Environment
- Health
- Product development

Providing benefits - #yesweDAN

Agronomic

- **DAN** fertilizers are directly available to plants.
- **DAN** fertilizers suit all weather conditions.
- **DAN** fertilizers have a better Nitrogen Use Efficiency (NUE)
- **DAN** fertilizers produce more food.

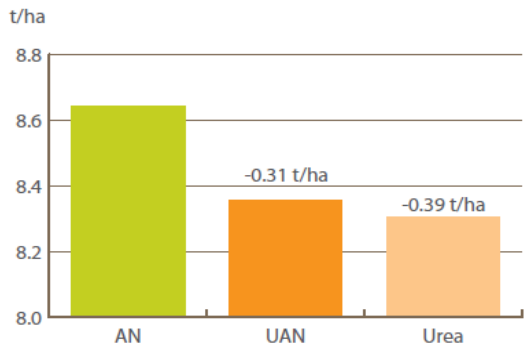
Providing benefits - #yesweDAN

Environment and Health

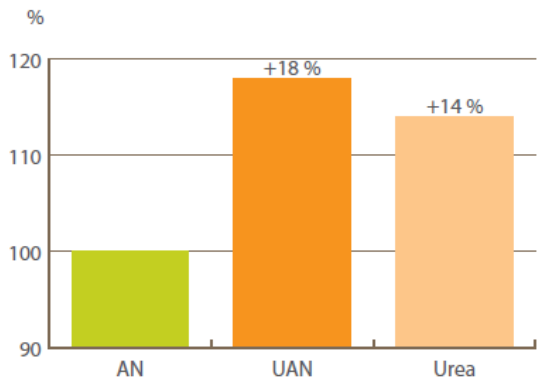
- **DAN** fertilizers have a 25% lower carbon footprint over their life-cycle.
- **DAN** fertilizers have demonstrated very low ammonia emissions compared to other N forms.
- Volatilized ammonia contributes to the formation of micro particles (PM 2.5) which can lead to health problems.

Providing benefits #yesweDAN

YIELD AT IDENTICAL N RATE



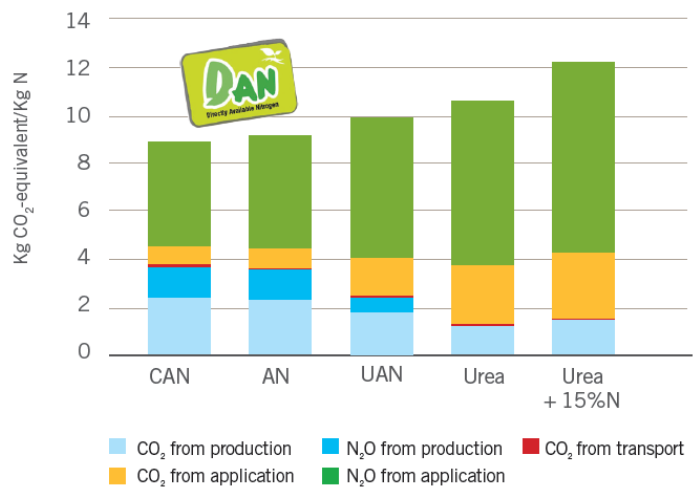
Yield was also lower with urea and UAN than with ammonium nitrate [ref. 5].



To maintain the same yield, significantly more nitrogen was needed from urea and UAN than from ammonium nitrate [ref. 5].

Directly Available Nitrogen (DAN) fertilizers offer the best means of increasing food production in an environmental way.

COMPARATIVE CARBON EMISSIONS FROM DIFFERENT FERTILIZER TYPES



The life-cycle carbon footprint for ammonium nitrate is lower than for urea and UAN. When compensating for the lower efficiency of urea and UAN with a higher dosage, the difference is even more marked [ref. 15].

Providing solutions #yesweDAN

EU wide campaign

- 4-8 March.
- Full roll-out across member states.

Brussels DAN Team

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Carbon Foot print Calculator

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Carbon foot print calculator.

First step achieved: the "**Carbon foot print Production module**"
Including new default values : 2010

Second step: developing / chosing a "**Full LCA carbon foot print calculator**"
The "**Cool Farm Tool**" is chosen as preferred option by Fertilizers Europe

- The "**Cool Farm Tool**" is:
  - An open system (developed by **Sustainable Food Lab**), already running on local
  - Free license allowing "derivative works", bound to same license terms
  - On line version available as from May 2013

- **Advantages of adopting this tool:**
  - Whole farm approach
  - Already used and re-known
  - Lead by big global food companies (Unilever in leading seat)
  - Validated by key academic (Aberdeen is IPCC rapporteur)
  - Includes organic

- **Creation of the "Cool Farm Institute" under work**, to ensure future evolution/development

Following phase: developing a GHG Emission Reduction Protocol

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Project participants:

Unilever

Sustainable Food Laboratory

Pulse Canada

Heinz

Oxfam

SYSCO

YARA

PEPSICO

CCGA

Marks & Spencer

gtz

Ambootia

SEKEM

Colorado State University

University of Aberdeen

University of Arkansas

Agriculture

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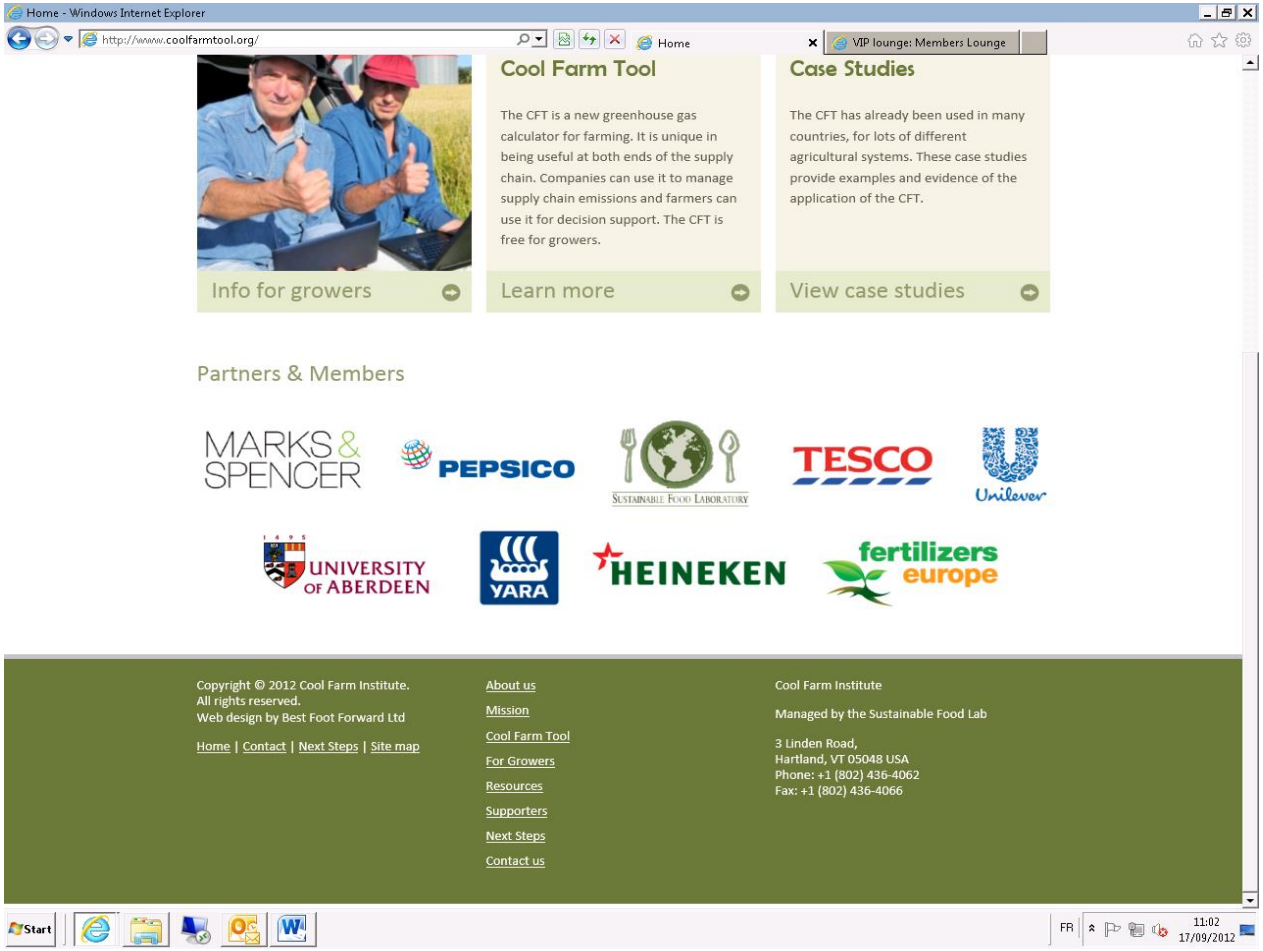

Thank you!

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Partnership for growth
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