Contributing to EU's cleaner air & climate mitigation efforts

The role of mineral fertilizers & targeted fertilisation

Tiffanie STEPHANI – Fertilizers Europe

16 May 2019 – Brussels

@StphaniT
@FertilizersEuro

fertilizers europe

Who we are?

Grupa Azoty SA Poland	AB Achema Lithuania
Anwil SA Poland	PFIC LTD Greece
NKF s.a. Greece	OCI Nitrogen BV The Netherlands
Petrokemija Plc Croatia	Borealis AG Austria
ICL Fertilizers Europe BV The Netherlands	Eurochem Antwerpen BV Belgium
Yara International ASA Norway	Azomures SA Romania
Nitrogénmüvek Zrt Hungary	Lovochemie as Czech Republic
BASF AG / Fertilizer BU Europe Germany	CF Industries United Kingdom
	Fertiberia SA Spain & Portugal

European Commission

fertilizers europe

The European fertilizer industry at a glance

€10.9 BN* **TURNOVER**

€66.2M RESEARCH & DEVELOPMENT 2015 MEMBERS ONLY

78.500 EMPLOYEES*

€1.3 BN* **INVESTMENT**

* Average last 5 years

Source: Fertilizers Europe, 2018

European Commission

Outline

1) The contribution of the mineral fertilizer industry to climate mitigation

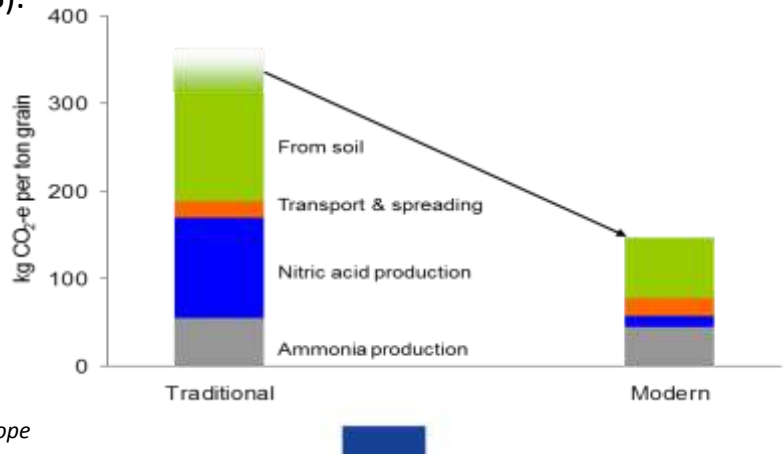
2) Curbing ammonia emissions for cleaner air in Europe

3) Targeted fertilization: better yields, with less losses to the environment

1) The contribution of the mineral fertilizer industry to climate mitigation

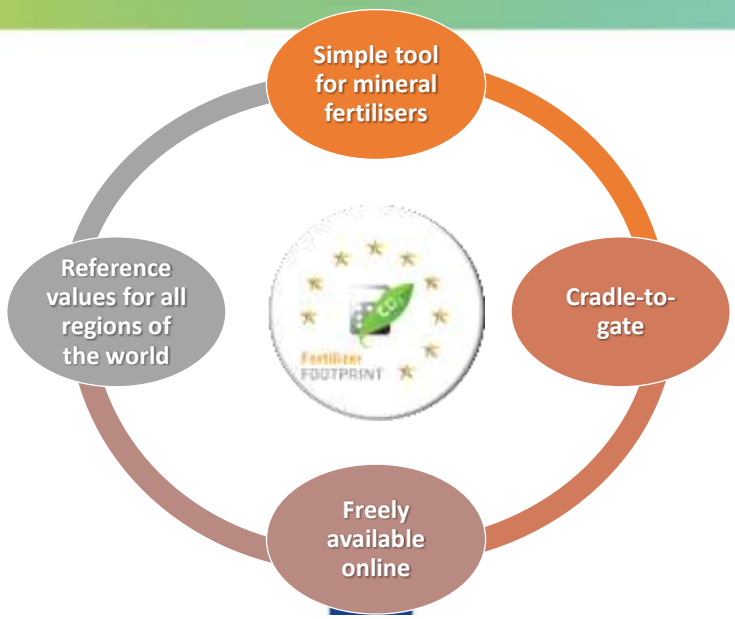
Deep CO_2 emissions' cuts from production

The EU mineral fertilizer industry has reduced significantly CO_2 Emissions since 1990, beyond being covered by the European Emission Trading Scheme (ETS).



Source: Fertilizers Europe

Estimating carbon footprint of production



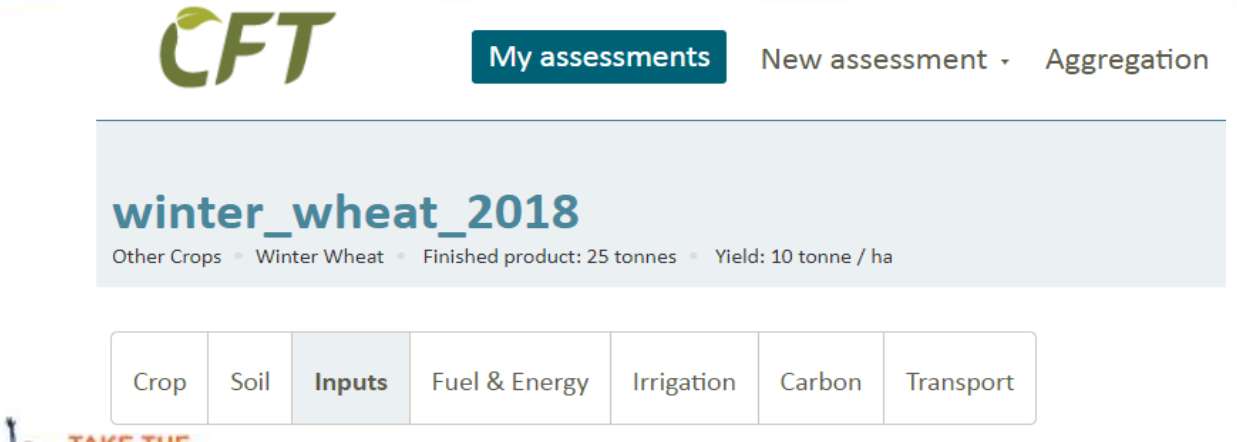
Estimating carbon footprint of farming

Fertilizers Europe is a founding member of the Cool Farm Alliance, whose aim is to develop sustainability metrics

The Cool Farm Tool is a sustainable agriculture assessment tool, with an online calculator for GHG, water and biodiversity

More & more products covered: rice, potato, maize, wheat, beef, dairy, pig…

Example for a parcel of 2.5 ha



Source: Cool Farm Tool

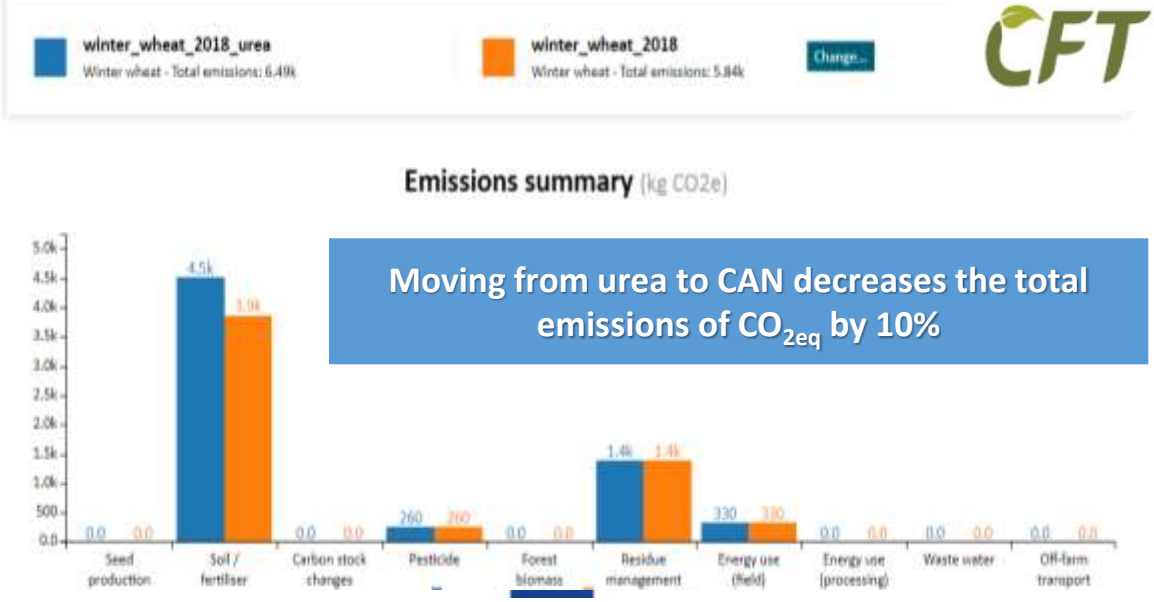
Farmers have different options for fertilizer use

Fertiliser Application 1 — X Remove

Fertiliser type	Calcium ammonium nitrate - 27% N	(216.00 kg / ha N)
Manufactured in	Europe 2014	
Application rate	800 kg / ha	
OR		
Fertiliser type	Urea - 46% N	(230.00 kg / ha N)
Manufactured in	Europe 2014	
Application rate	500 kg / ha	

Latest reference values for fertilizer production for all regions of the world

Comparing practices for climate mitigation



Moving from urea to CAN decreases the total emissions of CO_{2eq} by 10%

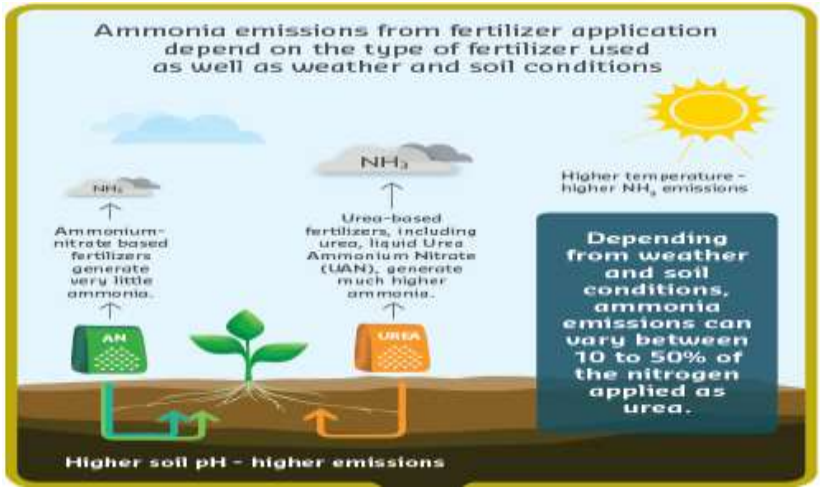
2) Curbing ammonia emissions for cleaner air in Europe

What are we talking about?

TAKE THE INITIATIVE!
#EUGreenWeek
13–17 MAY 2019

Source: Fertilizers Europe from EEA 2018- EU emission inventory report 1990-2016 under the UNECE LRTAP

Different fertilisers, different impacts



TAKE THE INITIATIVE! #EUGreenWeek 13–17 MAY 2019

Source: Fertilizers Europe, Farming and Air Quality, 2019

Optimal use of mineral fertilizers 1/2

Use Ammonium-nitrate based fertilizers – these fertilizers ensure the lowest emissions.

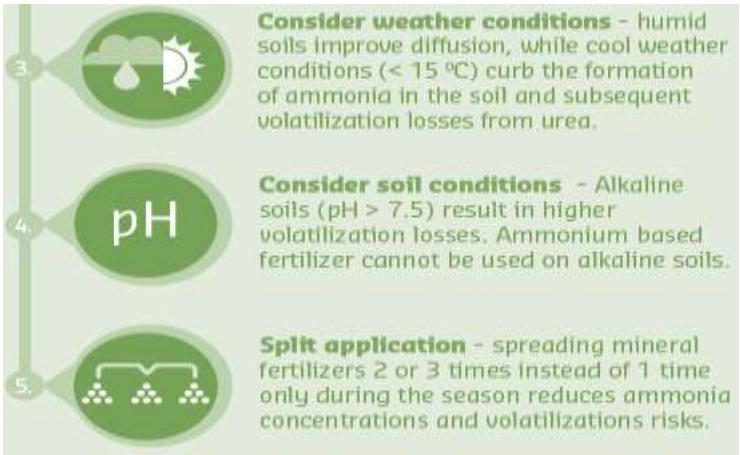
If urea:

- **Immediate incorporation** – Incorporation of urea into the soil immediately upon spreading reduces potential volatilization losses by up to 70 %.
- **With inhibitors** - For site-specific farm conditions, urea containing inhibitors might remain an option as it reduces ammonia losses in average by ~70 to 80%. Urea inhibitors thus can improve nitrogen use efficiency and reduce environmental impacts of this less favourable form of nitrogen.

TAKE THE INITIATIVE! #EUGreenWeek 13–17 MAY 2019

Source: Fertilizers Europe, Farming and Air Quality, 2019

Optimal use of mineral fertilizers 2/2



TAKE THE INITIATIVE! #EUGreenWeek 13–17 MAY 2019

Source: Fertilizers Europe, Farming and Air Quality, 2019

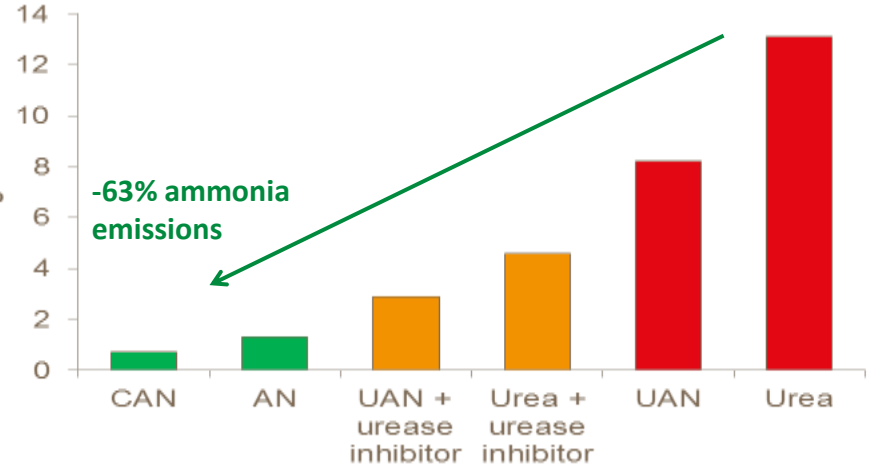
What can be achieved?

Emission factors for ammonia emissions from different fertilisers

CAN: Calcium Ammonium Nitrate

AN: Ammonium Nitrate

UAN: Urea Ammonium Nitrate



TAKE THE INITIATIVE! #EUGreenWeek 13–17 MAY 2019

Source: Calculation based on EMEP/EEA air pollutant emission inventory guidebook 2016

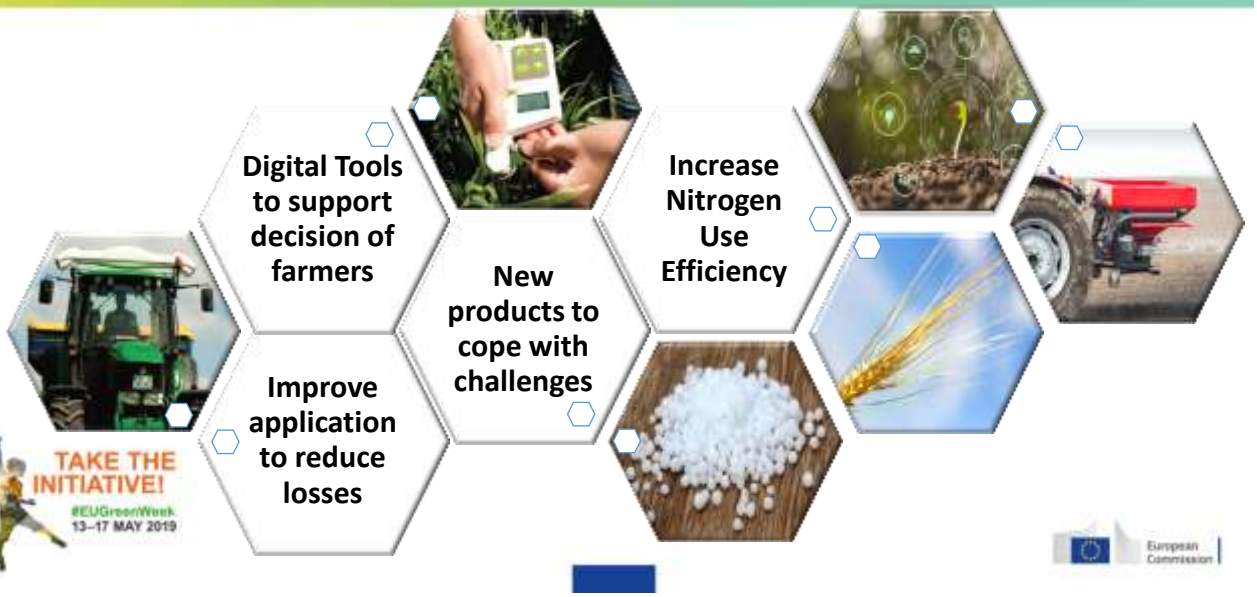
Awareness-raising campaign

Source: Fertilizer Focus, May/June 2019

3) Targeted fertilization: better yields with less losses to the environment

fertilizers europe

European fertilizer industry: the way forward



fertilizers europe

Some examples of tools from our industry

NutriGuide
Your Crop Nutrition Advisor


N-Tester


ImageIT


Water Sensor

N-PILOT


N-Sensor

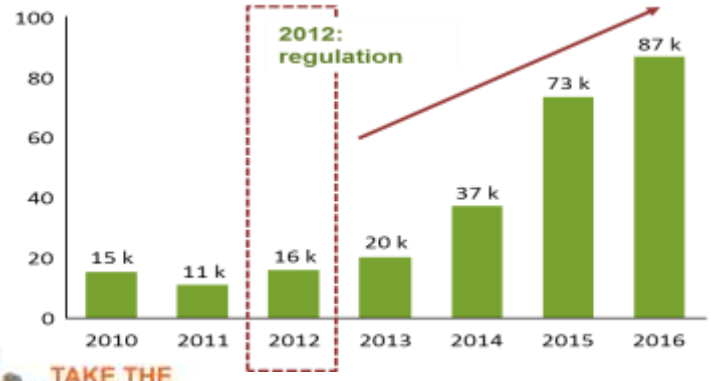
GRUNT TO WIEDZA

N-Prognos

INITIATIVE!
SatAgro
European Commission

Yara N-tester in France

No. of Yara N-Tester recommendations in France
covering approx.14% of the winter wheat area in 2016



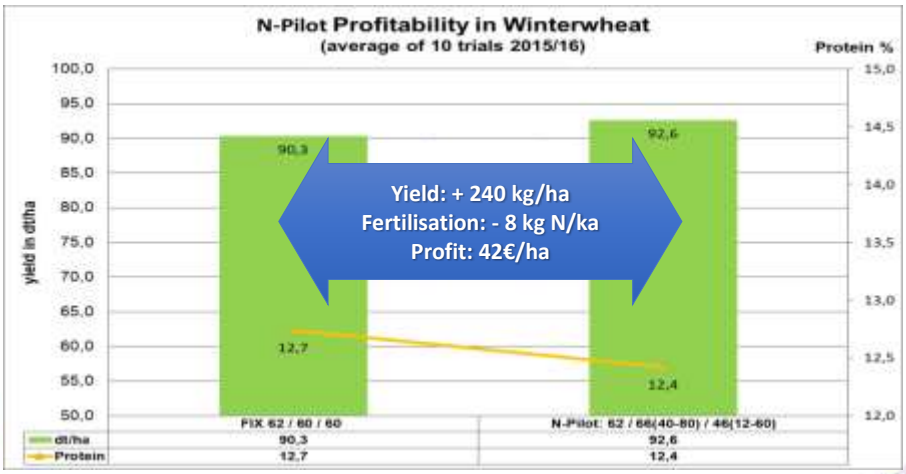
- Legal framework can help implementation of precision farming practices.
- Environment and productivity can meet through policy.

TAKE THE INITIATIVE!
#EUGreenWeek
13–17 MAY 2019

Source: Yara

Benefits of Borealis N-Pilot®

A precise assessment of the nutritional status of the crops leading to a relevant recommendation of spreading or not spreading.



TAKE THE INITIATIVE!
#EUGreenWeek
13–17 MAY 2019

Source: Borealis

Concluding remarks

Developing an even more climate friendly way of producing to reduce overall climate footprint of farming

Providing to farmers tools to give just the right amount of nutrients crops need

Promoting the use of directly available Nitrogen fertilisers to reach cleaner air for all

Innovating to improve application and mineral fertilizers themselves to reduce losses to environment

For more information
tiffanie@fertilizerseurope.com

@FertilizersEuro
@StphaniT

Fertilizers Europe