General information

<table>
<thead>
<tr>
<th>Source: IFADATA, 2016</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fertilizer consumption</strong> (NPK, thousand tons of nutrients)</td>
<td>16,523.4</td>
<td>16,927.7</td>
<td>16,867.5</td>
</tr>
<tr>
<td><strong>Fertilizer production</strong> (NPK, thousand tons of nutrients)</td>
<td>16,714.3</td>
<td>16,428.1</td>
<td>16,254.6</td>
</tr>
<tr>
<td><strong>Fertilizer use</strong> (kilograms per hectare of arable land)</td>
<td>136</td>
<td>142</td>
<td>144</td>
</tr>
</tbody>
</table>

- **Source**: Fertilizers Europe

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**Summary**

<table>
<thead>
<tr>
<th>Subsidies</th>
<th>Fertilizer Use</th>
<th>✔️</th>
<th>✔️</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fertilizer Value Chain</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Nutrient Management</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulations</th>
<th>Fertilizer</th>
<th>✔️</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Air Quality</td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Water Quality</td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Soil Management</td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>Climate Change</td>
<td>✔️</td>
</tr>
</tbody>
</table>

**Area of the 5 major crops (Average 2013-2015)**

**Sources**: Eurostat, 2016

**Area (million Ha)**

- **Agricultural Land**: 186.5
- **Arable Land**: 106.6
- **Permanent Crops**: 1.2

**Source**: Eurostat, 2016
Subsidies

Fertilizer Use, Nutrient Management and Soil Management

The Common Agricultural Policy (CAP) is composed of two pillars, i.e. one pillar delivering Direct Payments to farmers as a compensation for higher environmental standards and one pillar implementing the European Agricultural Fund for Rural Development (EAFRD) that includes financial tools to influence farmers’ behavior and practices, fertilizer application and nutrient management included.

Since 2005, all farmers receiving direct payments are subject to compulsory cross compliance. “Cross-compliance is a mechanism that links direct payments to compliance by farmers with standards concerning the environment, food safety, animal and plant health and animal welfare, as well as the requirement of maintaining land in good agricultural and environmental condition”. These “standards” are defined by more than a dozen pieces of legislation, the most relevant of which will be described further below. Beyond implementing legislation, Member States have to ensure that farmers are guaranteeing Good Agricultural and environmental condition of land (GAEC). Within those GAEC, European farmers have to prevent soil erosion by practicing a minimum soil cover as well as minimum land management. In addition, all EU farmers have to maintain soil organic matter and soil structure by keeping the organic matter level.

In 2013, CAP reform introducing ‘greening’ measures. The idea is to link Direct Payments to environment-friendly practices, farmers managing their land according to this measures benefiting financially. Green Direct Payments account for 30% of EU countries’ Direct Payment budgets. Farmers receiving an area-based payment have to make use of practices that benefit the environment and the climate. They include: diversifying crops; maintaining permanent grassland; dedicating 5% of arable land to ‘ecologically beneficial elements’ (‘ecological focus areas’). To obey those rules, EU farmers have to implement actions such as crop diversification or land conversion into permanent grasslands, which impact their fertilizer use. In several European countries, the use of mineral fertilizers is forbidden in these ‘ecological focus areas’, allowing manure only.

Fertilizer Value Chain

No subsidies directly impacting the fertilizer value chain.

Regulations

Glossary

(Source: European Commission, 2016)

**Regulation**: In Community law, a Regulation is an instrument of general scope that is binding in its entirety and directly applicable in all Member States. They require no transposal into the Member States’ domestic law and directly confer rights or impose obligations.

**Directive**: In Community law, a Directive is a legislative instrument that is binding on the Member States to whom it is addressed as regards the result to be attained but leaves them free to determine the form and methods. Once adopted, Community Directives still have to be transposed by each of the Member States, that is to say they must be implemented by national law.

Fertilizer


The regulation brought into one piece of legislation all the European Union (EU) rules that apply to the placing on the market of fertilizers, and ensured that highly technical requirements are implemented uniformly throughout the EU. The regulation only applies to mineral fertilizers consisting of one or more plant nutrients. The document also lists fertilizer types that may bear the “EC” label if they meet their specific characteristics and requirements (provide nutrients effectively, not harm human, animal or plant health or the environment and demonstrate it has been subject to the relevant sampling, analysis and test methods) in order to be sold and used throughout the EU. Those types are today very well recognized by European farmers. Specific rules apply to inorganic nutrient fertilizers, to inorganic micro-nutrient fertilizers and to ammonium nitrate fertilizers. It has applied since 11 December 2003. Fertilizers bought and sold within a single European Member State (without any transboundary movement) do not fall under this regulation, but under its national law.

**NB**: In March 2016, the Commission adopted a proposal which aims to simplify the existing legislation, to modify the way the EU’s fertilizer market works and to extend the rules to non-harmonized products (a.o. organic fertilizers and biostimulants, etc.). The proposal is discussed by the different European Institutions at the time of writing this country sheet. It is expected to be adopted by the end of 2017. This country sheet will be updated accordingly.
Air

Directive 2008/50/EC on Ambient Air Quality

This Directive addresses ambient air quality assessment and management. It includes a series of daughter directives, which set limit values for different atmospheric pollutants, among which NO\textsubscript{x} (see table below).

### Overview of NO\textsubscript{x} atmospheric concentration thresholds set by the 2008/50/EC Directive

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limit Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical level for NO\textsubscript{x} for vegetation (average over 1 year)</td>
<td>30 μg m\textsuperscript{-3}</td>
</tr>
<tr>
<td>Limit values for NO\textsubscript{x} for human health (average over 1 year)</td>
<td>40 μg m\textsuperscript{-3}</td>
</tr>
<tr>
<td>Limit values for NO\textsubscript{x} for human health (average over 1 hour)</td>
<td>200 μg m\textsuperscript{-3}</td>
</tr>
<tr>
<td>Alert thresholds for NO\textsubscript{x} for human health (average over 3 hours)</td>
<td>400 μg m\textsuperscript{-3}</td>
</tr>
</tbody>
</table>

Source: ENA, 2011

Directive 2010/75/EU on Industrial Emissions (IED)

The Directive, adopted in November 2010, aims at achieving “a high level of protection of human health and the environment taken as a whole by reducing [...] industrial emissions across the EU, in particular through better application of Best Available Techniques (BAT)”. Large livestock farms are falling under the scope of this Directive and as such have to fulfill more demanding requirements regarding nutrient management. Precise levels of emissions are described in the annex of the Directive.

Directive 2016/2284/EU on the reduction of national emissions of certain atmospheric pollutants

Water Pollution

Directive 2000/60/EC establishing a framework for the Community action in the field of water policy (Water Framework Directive)

The Water Framework Directive (WFD) is widely accepted as the most substantial and ambitious piece of European environmental legislation to date. Its purpose is the protection of inland surface waters (rivers and lakes), transitional waters (estuaries), coastal waters and groundwater, aiming at achieving good ecological status and good chemical status for all aquatic ecosystems, terrestrial ecosystems and wetlands (originally by 2015, and now by 2021 or 2027 depending on the Member State) and the reversal of any significant and sustained upward trend in the concentration of any pollutant, such as nitrates. The environmental quality of surface waters with respect to eutrophication and nutrient concentrations is, however, an objective of several other Directives.

Directive 98/83/EC on the quality of water intended for human consumption

Its objective is to protect human health from adverse effects of any contamination of water intended for human consumption. It sets a maximum allowable concentration for nitrate of 50 mg/L.

 Directive 2001/81/EC on National Emission Ceilings and entered into force on 31 December 2016. It sets national reduction commitments (ceilings) for the five pollutants (sulphur dioxide, nitrogen oxides, volatile organic compounds, ammonia and fine particulate matter) responsible for acidification, eutrophication and ground-level ozone pollution, but Member States can decide within a framework set in this Directive which measures to implement in order to reach those ceilings. The Directive also transposes the reduction commitments for 2020 taken by the EU and its Member States under the revised Gothenburg Protocol and sets very ambitious reduction commitments for 2030 aiming at cutting health impacts of air pollution by half compared with 2005.

Directive 2008/50/EC on the quality of water intended for human consumption. It sets a maximum allowable concentration for nitrate of 50 mg/L.


Adopted in 1991, this Directive has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further such pollution. It requires the identification of ‘vulnerable zones’ surrounding groundwater sites/bodies where annual average nitrate concentrations exceed or could exceed 50 mg NO\textsubscript{x}/L, and the implementation of ‘action programmes’ by the Member States including rules such as periods when the land application of certain types of fertilizer is prohibited, or the limitation of the land application of fertilizers. The action programmes have to be implemented by farmers within vulnerable zones on a compulsory basis. These programmes include, among other measures, limitation of fertilizer application (mineral and organic), taking into account crop needs, all nitrogen inputs and soil nitrogen supply, maximum amount of livestock manure to be applied (corresponding to 170 kg nitrogen /hectare/year). Each Member State is also required to have a Code of Good Agricultural Practice, determining periods when the land application of fertilizer is inappropriate; the land application of fertilizer to steeply sloping ground; the land application of fertilizer to water-saturated, flooded, frozen or snow-covered ground; the conditions for land application of...
fertilizer near water courses and procedures for the land application, including rate and uniformity of spreading, of both chemical fertilizer and livestock manure, that will maintain nutrient losses to water at an acceptable level. Many European countries are not meeting the objectives of this Nitrates Directive and have been taken to Court of Justice by the European Commission.


The Marine Directive aims to achieve Good Environmental Status (GES) of the EU’s marine waters by 2020. It is the first EU legislative instrument related to the protection of marine biodiversity, as it contains the explicit regulatory objective that “biodiversity is maintained by 2020”, as the cornerstone for achieving GES. In order to achieve GES by 2020, each Member State is required to develop a strategy for its marine waters (or Marine Strategy). Inputs of fertilizers and other nitrogen- and phosphorus-rich substances (e.g. from point and diffuse sources, including agriculture, aquaculture, atmospheric deposition) are identified as potential pressures and impacts.

Directive 2006/118/EC on Groundwater

The 2006 Groundwater Directive complements the Water Framework Directive and requires Member States to establish groundwater quality standards, reverse pollution trends, take measures to prevent or limit inputs of pollutants into groundwater and comply with good chemical status criteria (based on EU standards of nitrates and on threshold values established by Member States). Member States may have determined threshold values for other molecules as well, such as phosphorus, phosphates and nitrates.

Climate Change Mitigation


Even if fertilizers are not explicitly mentioned in this Directive (except nitrogen in N₂O, as a greenhouse gas), this Directive has influence on N use in agriculture, as bio-energy crops require N. for their growth. The EU policy on bioenergy will also influence the total agricultural area used for crop production.

Directive 2009/28/EC on the Promotion of the use of energy from renewable sources

This Directive amended the 2003/30/EC, setting a target of a 20% share of renewables in energy consumption in the EU by 2020, with a mandatory minimum of 10% of all energy in transport from biofuels, but capping at 7% the contribution of food crops.

Other relevant policies

The policies described in this box are not necessarily legally binding, but are relevant in the sense that they inform on the European Union’s current strategy and the potential future pieces of legislation that could impact - directly or indirectly - fertilizer use in the next few years.

The Natura 2000 Network and the EU Biodiversity Strategy

Natura 2000 is a network of sites dedicated to protect rare and threatened species, and rare natural habitats. These sites are present in all 28 EU countries, both on land and at sea. The aim of the network is to ensure the long-term survival of Europe’s most valuable and threatened species and habitats, listed under both the Birds Directive and the Habitats Directive. Rules implemented in these zones regarding farming practices are very constraining, therefore impacting farmers’ use of fertilizers in their production strategy. With the same goals, the EU adopted a Biodiversity Strategy, setting 6 targets and 20 actions to halt the loss of biodiversity and ecosystem services in the EU by 2020.

The EU Climate & Energy Package & The Effort Sharing Decision (ESD)

The ESD establishes binding annual greenhouse gas (GHG) emission targets for Member States for the period 2013–2020. These targets impact sectors such as transport, buildings, agriculture and waste, that are not included in the EU Emissions Trading System (ETS). The ESD forms part of a set of policies and measures called the “Climate & Energy Package” – aiming at transforming the EU into a low-carbon economy zone. In contrast to sectors in the EU ETS, which are regulated at EU level, it is the responsibility of Member States to define and implement national policies and measures to limit emissions from the sectors covered by the Effort Sharing Decision.

The Climate & Energy Package will be modified in the coming months since the Commission has proposed new legislative proposals to implement the Paris Climate Agreement and to fix GHG reduction targets for 2030.

The 7th Environment Action Programme

This programme sets ambitious guiding principles for EU environmental policy until 2020. It identifies three key objectives: to protect, conserve and enhance the Union’s natural capital; to turn the EU into a resource-efficient, green, and competitive low-carbon economy; to safeguard EU citizens from environment-related pressures and risks to health and wellbeing. The programme is in place since January 2014. EU institutions and Member States have to ensure its implementation to meet its objectives by 2020.
Useful references

- Fertilizers Europe
- Up-to-date information regarding the new Fertilizer Directive
- European Commission – Agriculture and Rural Development
- European Commission – Agriculture and Soil Protection
- European Commission – Cross Compliance
- European Commission – Agri-environment Measures
- European Commission – Agriculture and Climate Change
- European Commission – National Emissions Ceilings
- European Commission – Air Quality
- European Commission – Integrated River Basin Management
- European Commission – Drinking Water
- European Union – Industrial Emissions
- European Commission - 7th Environment Action Programme
- European Commission – Natura 2000
- European Commission – Biodiversity Strategy
- European Commission – Effort Sharing Decision
- European Commission – Climate & Energy Package
- European Commission – Emissions Trading System
- European Commission - Greening

DISCLAIMER

The information above is provided for general information purposes only. The International Fertilizer Association tried to gather all the available information regarding fertilizer use-related policies in this country, but cannot insure its full exhaustiveness and accuracy. Any change or evolution happening after the release date of this country sheet will appear in an updated version.