

# How much does agriculture pollute?



A look into agricultural pollution

# What is Agricultural Pollution?

Agricultural pollution is the contamination we release into the environment as a by-product of:

- Growing and raising livestock
- Food crops
- Animal feed
- Biofuel crops
- POP's
- Pesticides



# The History of Agricultural Pollution



The evolution and domestication of corn

Agriculture has undergone tremendous growth in millions of years since humans have been alive. In recent decades, we have also radically industrialized our methods and developed more resilient and productive crops (domesticated crops).



# The different types of agricultural pollutants



## How can agriculture (typically thought environmentally-friendly) be polluting?

- *Livestock Animal Pollution:* concentrated animal feeding operations, or CAFOs, is environmentally costly because of the transportation and slaughtering that the animals have to go through.
- *Livestock Water Pollution:* the animal waste is usually disposed of by spreading it on land, and generally untreated. Operators are supposed to apply only the amount that crops can use but extra is needed so more is added.
- *Livestock Air Pollution:* Animal waste combines with other air pollutants to create tiny (and deadly) solid particles. We humans inhale these particles, which can cause heart and lung disease.
- *Fertilizers (Nitrogen fertilizers):* healthy soil uses nitrogen efficiently. But sometimes soil becomes depleted of nutrients from it, so synthetic nitrogen has been created and POPs (Persistent organic pollutants)



Thanks for your attention  
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**What is the National policy  
regarding pollution in  
agriculture?**



**Agriculture is a very important sector in Italy.**

**Agriculture mainly produces wine, olives, cereals, fodder crops, vegetables, horticultural plants and fruit.**

**Unfortunately, diffuse pollution from agricultural sources represents the most significant pressure on both surface and groundwater bodies.**

**As a democratic country and an EU member state, Italy pursues an environment friendly policy and has a got a rich national legislation and EU Laws regarding agricultural and environmental policies.**

**These policies include: environmental impact assessments, waste, contaminated land, crop seed business, commercial crop production and distribution, GM (genetically modified) crops and foods.**





## Key national legislation on agriculture and environment law

The state has exclusive competence in environmental regulation. The primary source of Law is the **Italian Constitution** enacted in 1948.

In particular the article 9 says:

*"The Republic promotes the development of culture and of scientific and technical research. **It safeguards natural landscape and the historical and artistic heritage of the Nation.***





The key environmental legislation is the **Environmental Consolidated Act** (Legislative Decree no 152/2006). It has six parts:

- Environmental general principles
- Environmental Impact Assessment (EIA) and Integrated Pollution Prevention and Control permit (IPPC)
- Water resources management and soil protection
- Waste and packaging management
- Remediation of contaminated sites
  - Air protection and air emissions
  - Environmental damage


Italy as an EU member state joined in 1962 the CAP. The EU Common Agricultural Policy (CAP) provides economic support for agriculture in EU member states, and attempts to encourage agricultural practices that support the environment. Italy responds to key national legislation and must apply EU regulations and directives dealing with biotechnologies and GMO crops.



The very turning point dates back to 1992, when the Rio de Janeiro Declaration influenced the CAP, by introducing 27 principles intended to guide countries in future sustainable development.

The EU also introduced environment protection, through avoiding all forms of pollution, as a basic and qualifying element to obtain financial support through the CAP.





In Italy, the main national authorities of Environmental Regulatory Framework are:

- the **Ministry of Ecological Transition**
- The **Ministry of Agricultural, Food and forestry policies**
- the **Ministry of the Environment and Protection of Land and Sea**

Italy at International level is also part of

- WTO / World Trade Organization
- FAO/ Food and Agriculture Organization
- IPPC/International Plant Protection Convention



# Thanks for your attention

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# HOW CAN AGRICULTURE CHANGE?

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IT IS NECESSARY TO CHANGE THE WAY  
FOOD IS GROWN AND CONSUMED BECAUSE  
THE CURRENT ONE IS NOT VERY  
SUSTAINABLE. WE THOUGHT OF THESE FIVE  
IDEAS:

1) THE USE OF WASTEWATER PURIFIERS CAPABLE OF ALLOWING THE REUSE OF PURIFIED WASTE.

2) THE USE OF SATELLITES FOR REMOTE SENSING. THIS MAKES IT POSSIBLE TO OPTIMIZE INTERVENTIONS IN THE FIELD AND TO HAVE IMPORTANT INFORMATION ON THE HEALTH OF THE PLANT.





3) VERTICAL FARMING IS AN OPTIMAL SOLUTION TO REDUCE THE DEPLETION OF SPACE AND SOIL (HYDROPONICS)



4) USE OF A BIOGAS PLANT CAPABLE OF REMOVING BARN MANURE AND INDUSTRIAL WASTE





5) INSECTS REPRESENT A NEW PERSPECTIVE FOR AGRICULTURE. INFANT LIVESTOCK IS RESPONSIBLE FOR SIGNIFICANT GLOBAL EMISSIONS AND AGRICULTURAL TERRAINS ARE NECESSARY TO PRODUCE FORAGES.

Thanks  
for  
your  
attention

A FARM FROM  
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