# Article information:

Greenhouse gas emissions from nitrogen fertilizers could be reduced by up to one-fifth of current levels by 2050 with combined interventions | Nature Food  
<https://www.nature.com/articles/s43016-023-00698-w>

# Article summary:

1. The global population is expected to grow by more than 20% until 2050, and at the same time, greenhouse gas (GHG) emissions need to be substantially reduced.

2. Nitrogen fertilizers are responsible for approximately 5% of global emissions, and their production and use lead to a series of environmental challenges, including eutrophication, soil acidification, energy use and GHG emissions.

3. Various mitigation options have been identified at various life-cycle stages that could reduce GHG emissions from nitrogen fertilizers by up to one-fifth of current levels by 2050 with combined interventions.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Greenhouse gas emissions from nitrogen fertilizers could be reduced by up to one-fifth of current levels by 2050 with combined interventions” provides an overview of the potential for reducing greenhouse gas (GHG) emissions from nitrogen fertilizers through various mitigation strategies. The article is well researched and provides a comprehensive overview of the sources of GHG emissions associated with nitrogen fertilizers as well as potential mitigation strategies.

The article does a good job of presenting both sides of the issue in an unbiased manner, providing evidence for both the potential benefits and risks associated with reducing GHG emissions from nitrogen fertilizers. The authors provide detailed information on the sources of GHG emissions from both the production and use phases of synthetic nitrogen fertilizers as well as manure, which allows readers to gain a better understanding of the issue at hand. Additionally, they provide an overview of various mitigation strategies that could potentially reduce GHG emissions from nitrogen fertilizers by up to one-fifth of current levels by 2050 with combined interventions.

However, there are some areas where the article could be improved upon. For example, while it does provide an overview of potential mitigation strategies for reducing GHG emissions from nitrogen fertilizers, it does not explore any possible counterarguments or risks associated with these strategies in detail. Additionally, while it does provide evidence for its claims regarding potential reductions in GHG emissions from nitrogen fertilizers through various interventions, it does not provide any evidence for its claim that these reductions could reach up to one-fifth of current levels by 2050 with combined interventions. Furthermore, while it does mention some possible risks associated with reducing GHG emissions from nitrogen fertilizers such as eutrophication and soil acidification, it fails to mention other possible risks such as water pollution or air pollution that may arise due to changes in fertilizer production or application practices.

# Topics for further research:

* Nitrogen fertilizer production risks
* Nitrogen fertilizer application risks
* Eutrophication mitigation strategies
* Soil acidification mitigation strategies
* Water pollution mitigation strategies
* Air pollution mitigation strategies

# Report location:

<https://www.fullpicture.app/item/462a0377a7b2a1dd9930af30f9fd3ad4>