



DO UREASE INHIBITORS AND BIOLOGICAL PREPARATIONS REDUCE RELIANCE ON NITROGEN FERTILISERS AND IMPROVE MAIZE GRAIN YIELD?



SUSTAINABLE TECHNOLOGICAL AND BIOLOGICAL ADVANCES

Important to develop new technology to reduce reliance of nitrogen fertilizers for the cultivation of maize for grain.

Urease inhibitors play a significant role in reducing the loss of nitrogen. Another way to increase the efficiency of mineral fertilizers is the use of **seaweed extracts**.



PRACTICE FOR MAIZE GROWERS

Urease inhibitors and biological preparations from algae and humic substances can reduce dependence on nitrogen fertilizers and increase maize yield, a technology that should be practiced by maize growers.



AUTHORS

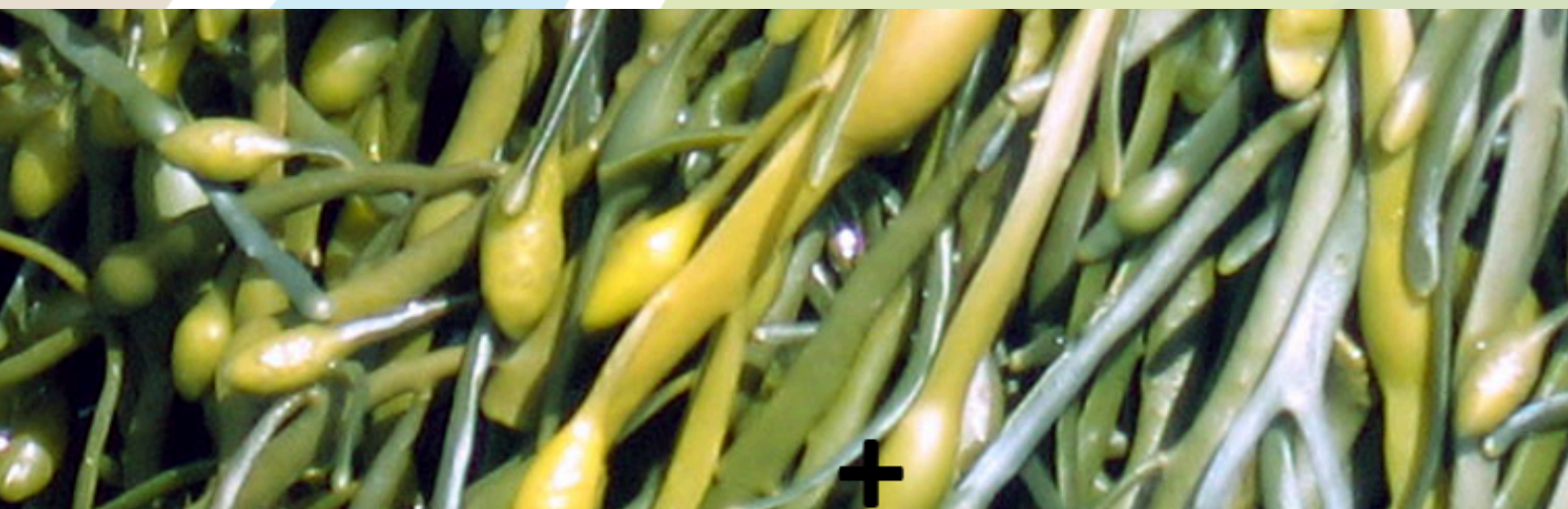
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Increase grain yield and reduce N loss

Maize grain yield was increased (15–20%) when nitrogen fertilizers were applied combined with the urease inhibitor ammonium thiosulfate.

EJP SOIL INNOVATION HIGHLIGHTS



TOWARDS CLIMATE-SMART SUSTAINABLE MANAGEMENT OF AGRICULTURAL SOILS

EJP SOIL is a European Joint Programme on Agricultural Soil Management addressing key societal challenges including climate change and future food supply.

The goal is to improve the understanding of agricultural soil management by finding synergies in research, strengthening research communities and raising public awareness.

1100+ scientists, 24 countries, addressing multiple aspects of soil management across different European agroecosystems.

EJP SOIL STUDY RESULTS FIELD STUDY - LITHUANIA

Urease inhibitor ATS significantly increased maize grain yield in all backgrounds of nitrogen fertilization. The investigated urease inhibitors and biologics had a higher and more significant effect on maize grain yield when fertilized with a lower amount of N100 nitrogen. The increase in nitrogen fertilizer rates had an effect on maize grain yield, with the largest increase in yield being found in the increase in nitrogen rate from N100 to N140, and the increase in rate to N180 was less effective.

TARGET EJP SOIL EXPECTED IMPACT AND EU MISSION SOIL OBJECTIVES

Supporting harmonized European soil information, including for international reporting.

SOIL MISSION: Conserve soil organic carbon and improve soil structure

HIGHLIGHT FACTS FROM:

Field studies in Lithuania
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Applicability:
Continental and Nemoral climatic zones
according to
Metzger et al. (2005)
<https://doi.org/10.1111/j.1466-822X.2005.00190.x>

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