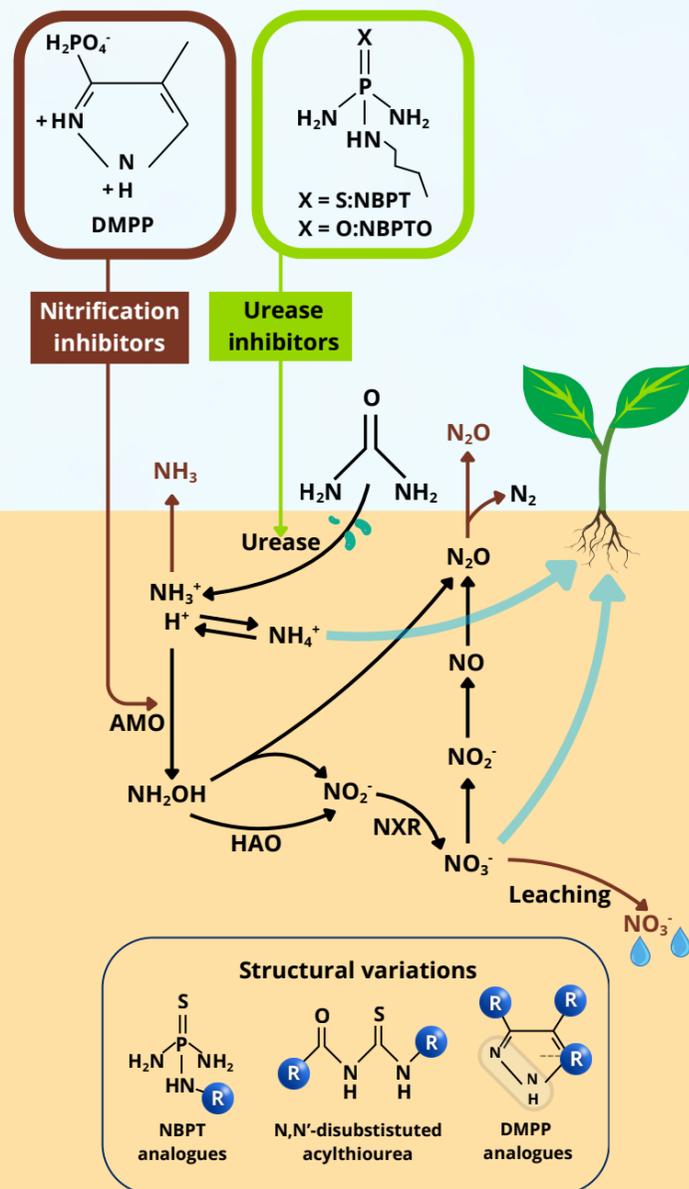


# NOVEL FERTILIZERS AND THEIR MODES OF ACTION

Traditional fertilizers often suffer from low nutrient recovery, losing valuable elements through leaching, volatilization, or soil fixation. Novel fertilizers are designed to overcome these losses through precision release, biological compatibility, and reduced environmental footprint.

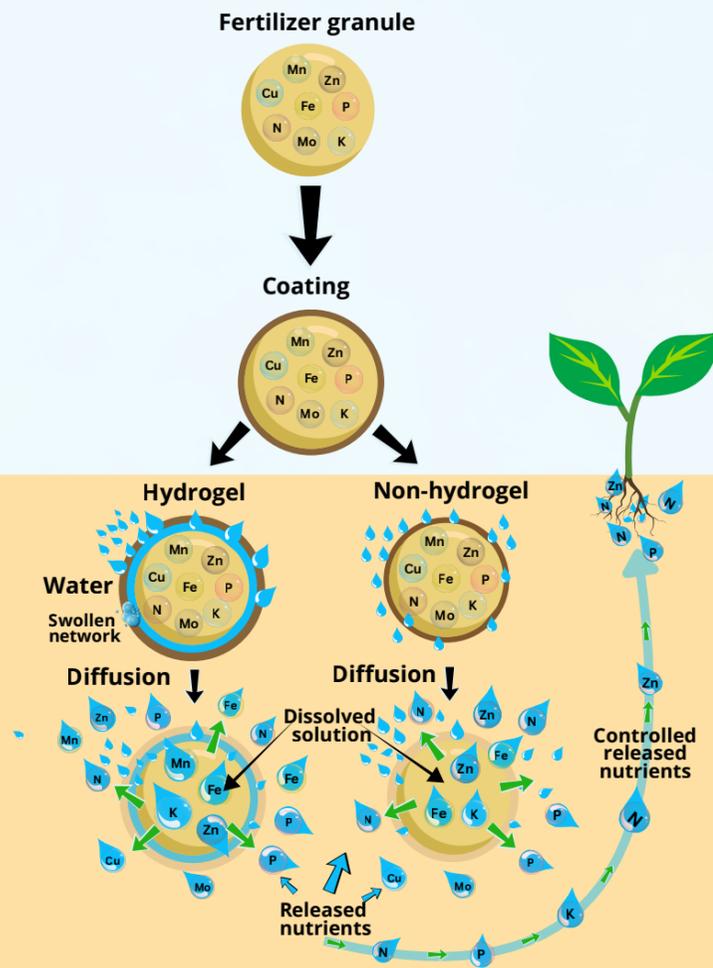
## STABILIZED FERTILIZERS

Inhibitors delay specific nitrogen transformations to reduce losses



## COATED FERTILIZERS

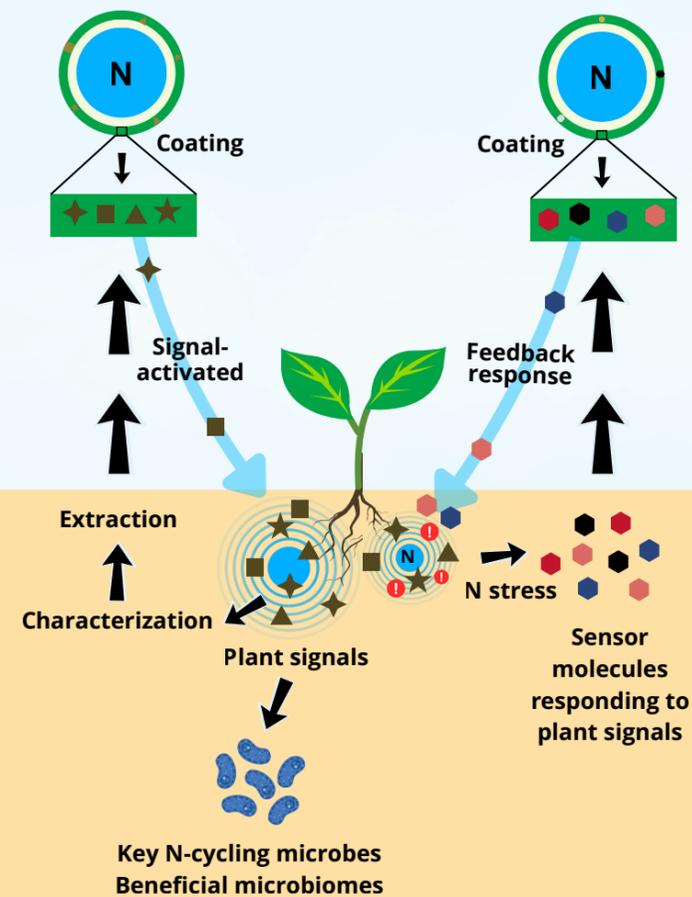
Controlled nutrient release via outer coating



## PLANT SIGNAL-DERIVED FERTILIZERS

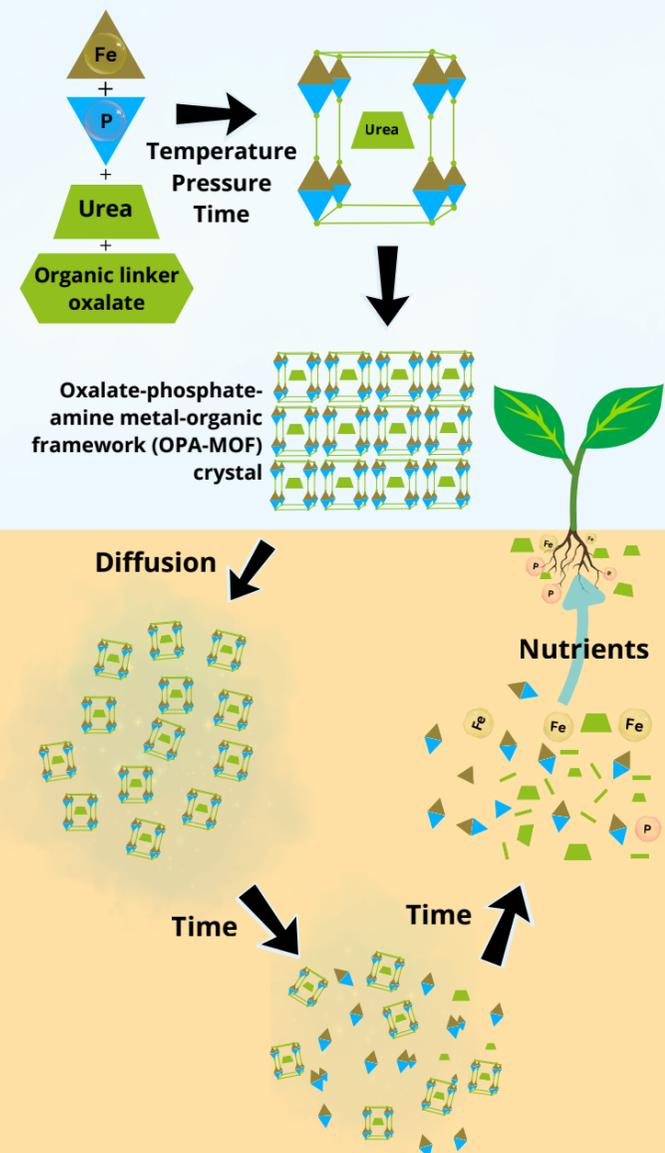
Incorporating plant signals

Incorporating plant sensors



## METAL-ORGANIC FRAMEWORKS

Environmental conditions promote efficient nutrient release



## How are novel fertilizers evaluated?



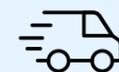
Agronomic efficiency



Environmental impact



Mode of action



Ease of handling and logistics