

Limus

Optimierung der Harnstoffdüngung

150 years

 **BASF**

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Dr. Wolfram Zerulla

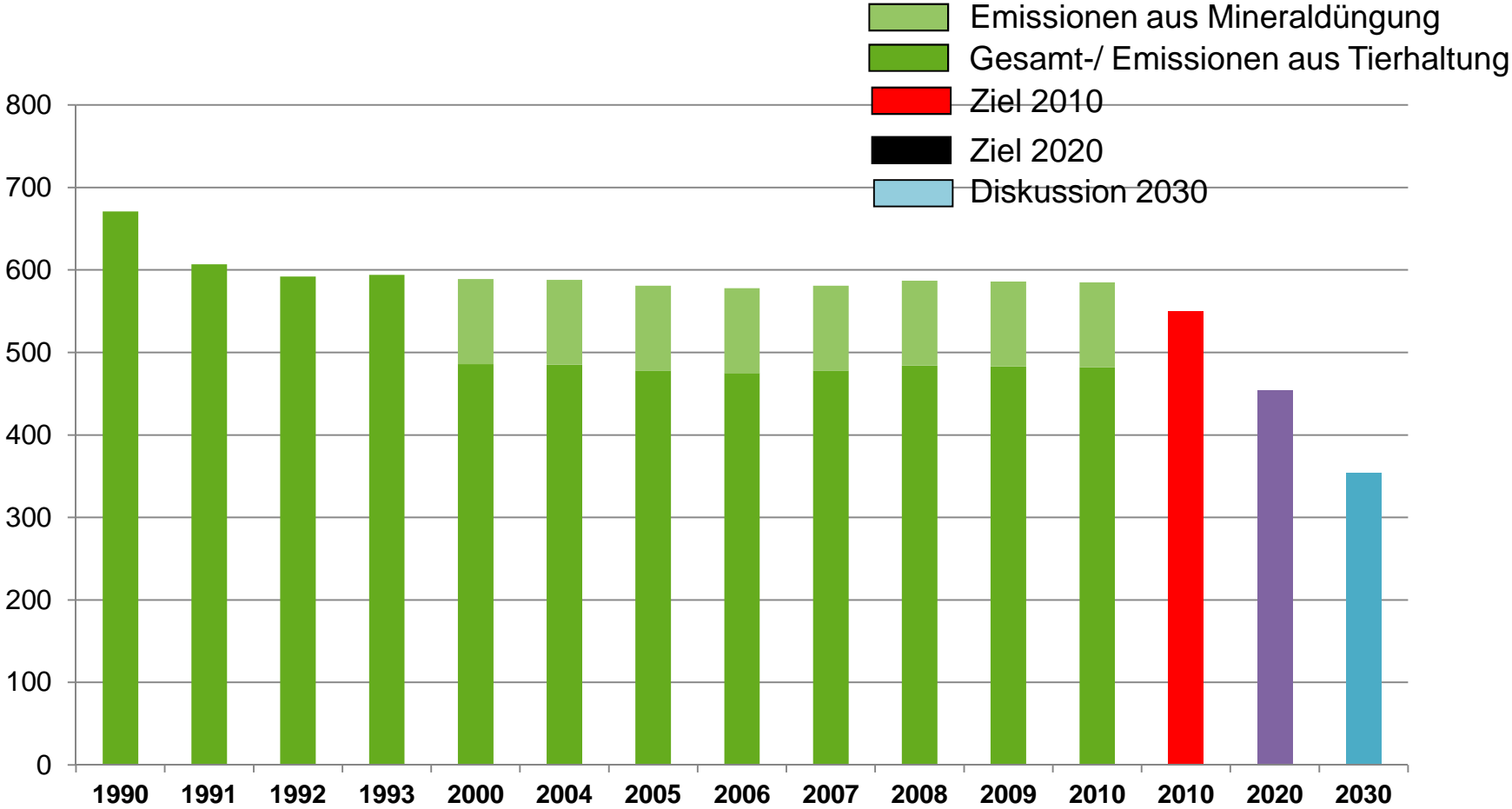
Juni 2015

INTERNAL

NH₃-Emissionen in Deutschland 1990 – 2010

Emissionsziele 2020 und 2030 (Tausend Tonnen)

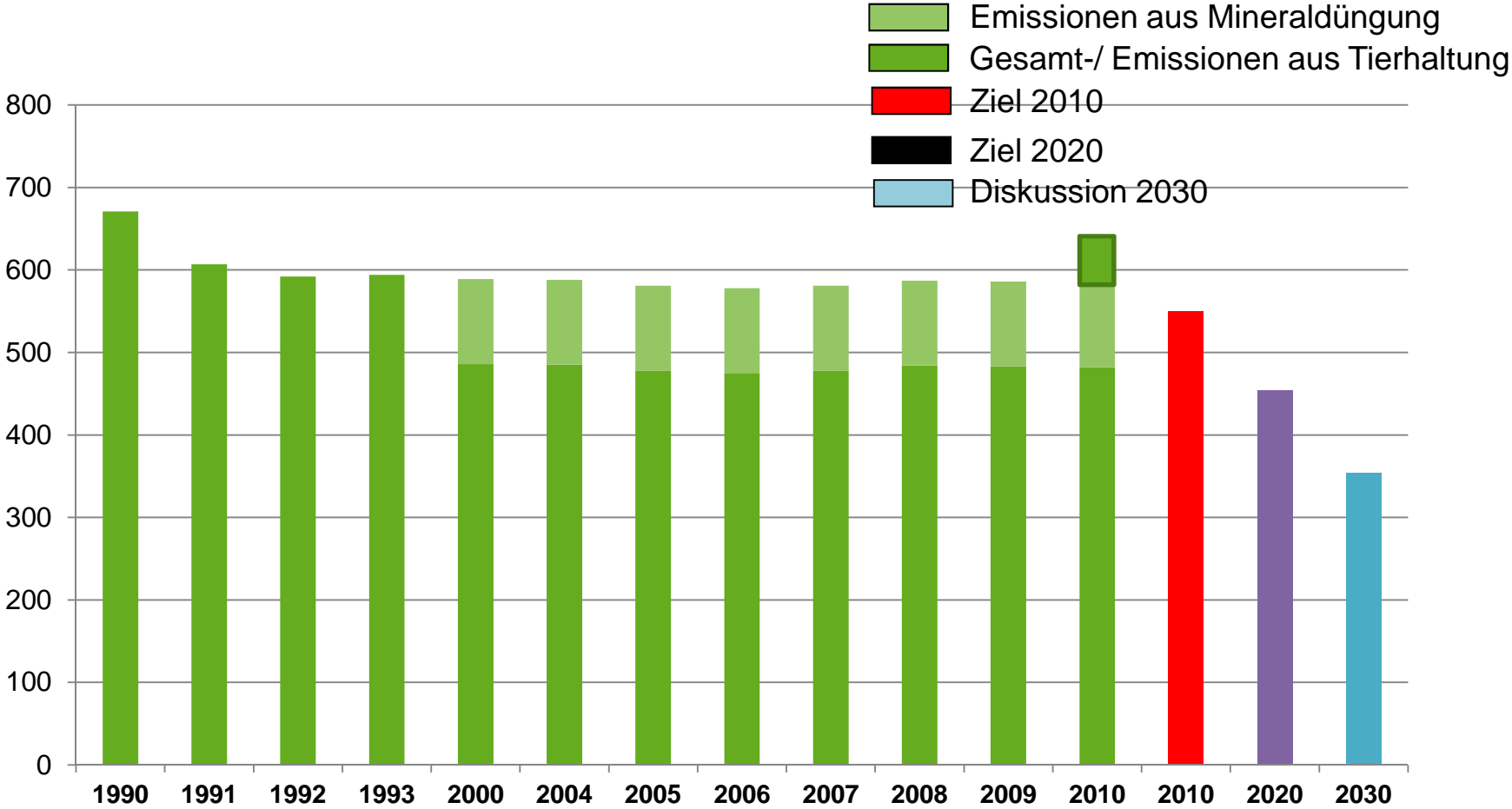
150 years



NH₃-Emissionen in Deutschland 1990 – 2010

Emissionsziele 2020 und 2030 (Tausend Tonnen)

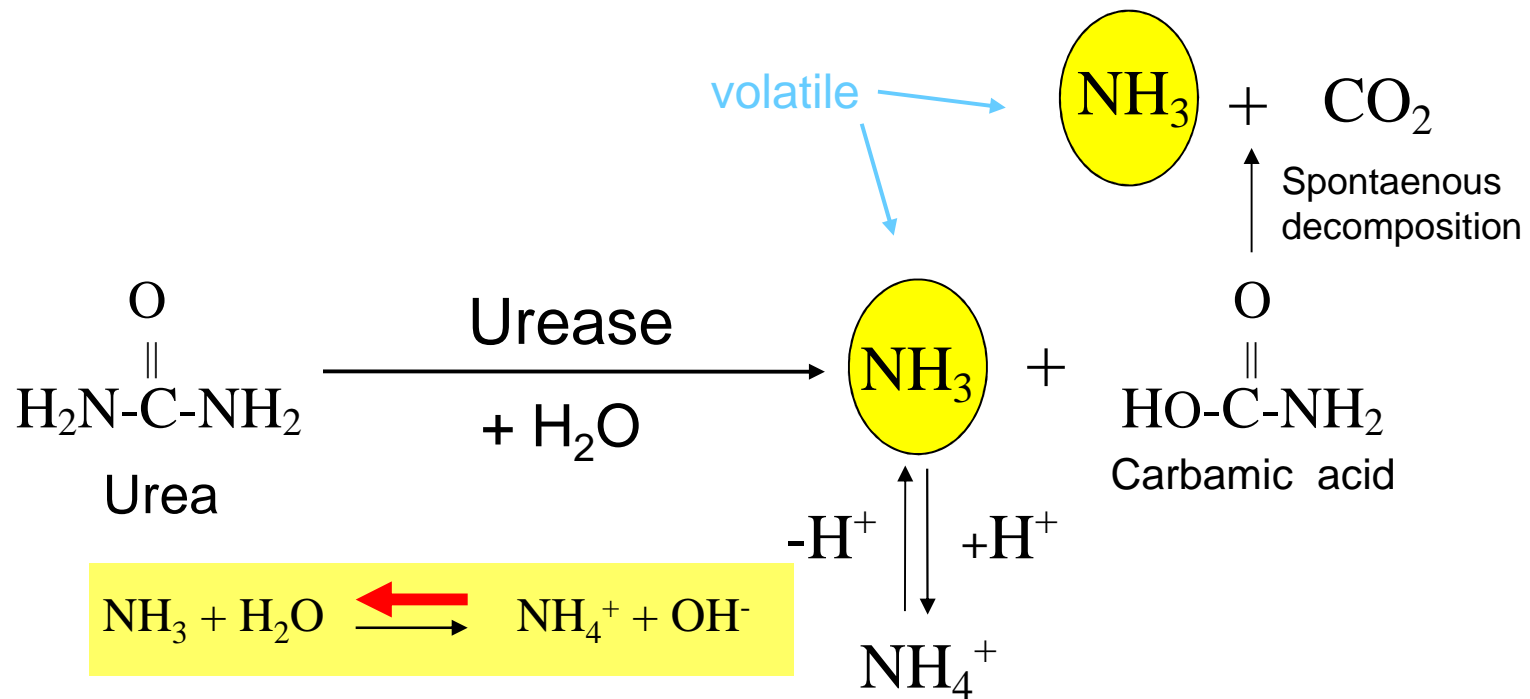
150 years



Transformation of urea into plant available nitrogen in the soil

150 years

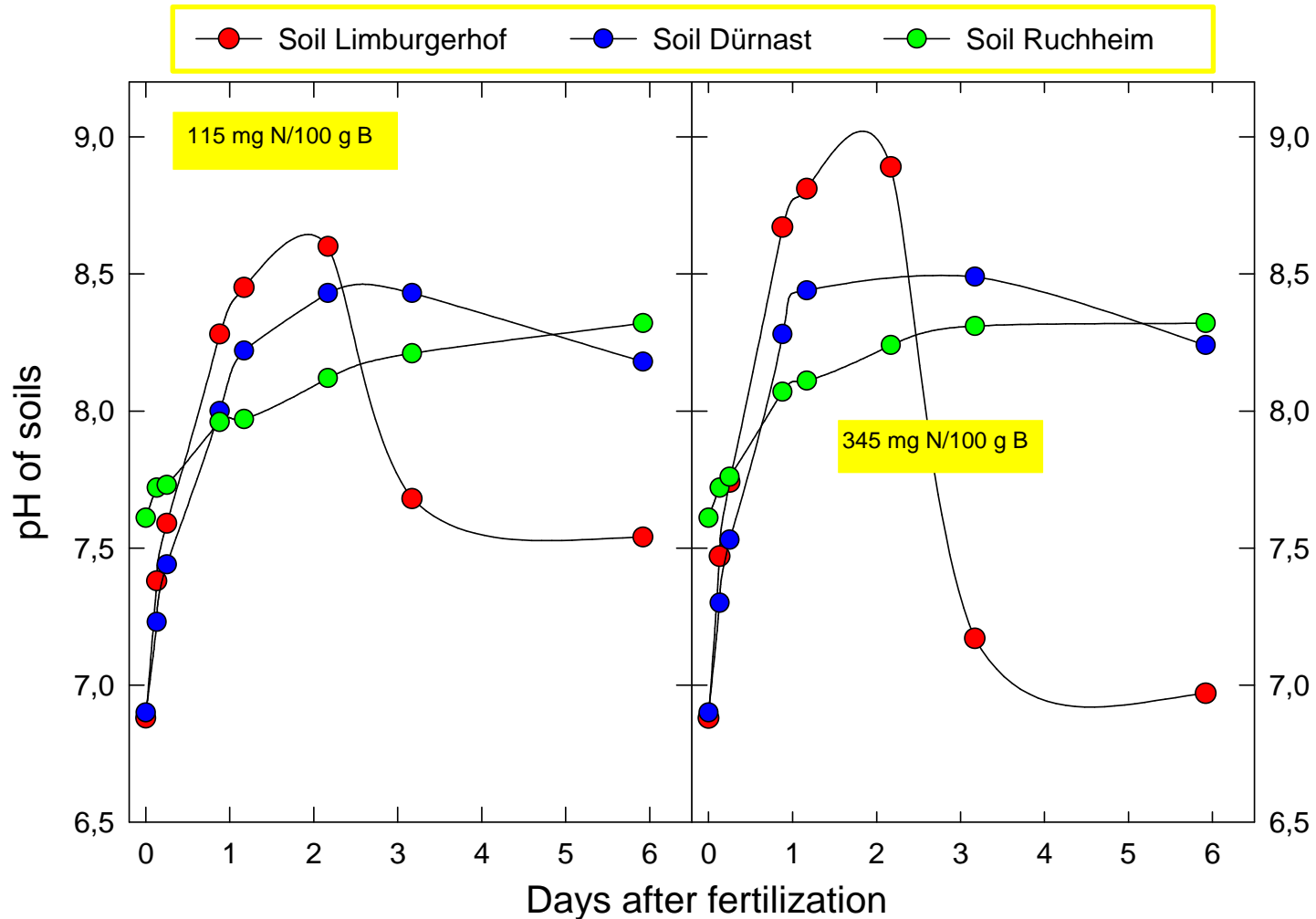
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pH increase after urea application

pH-increase in three soils after application of urea
(incubation experiment at 20°C, pH 0.01 m CaCl₂)

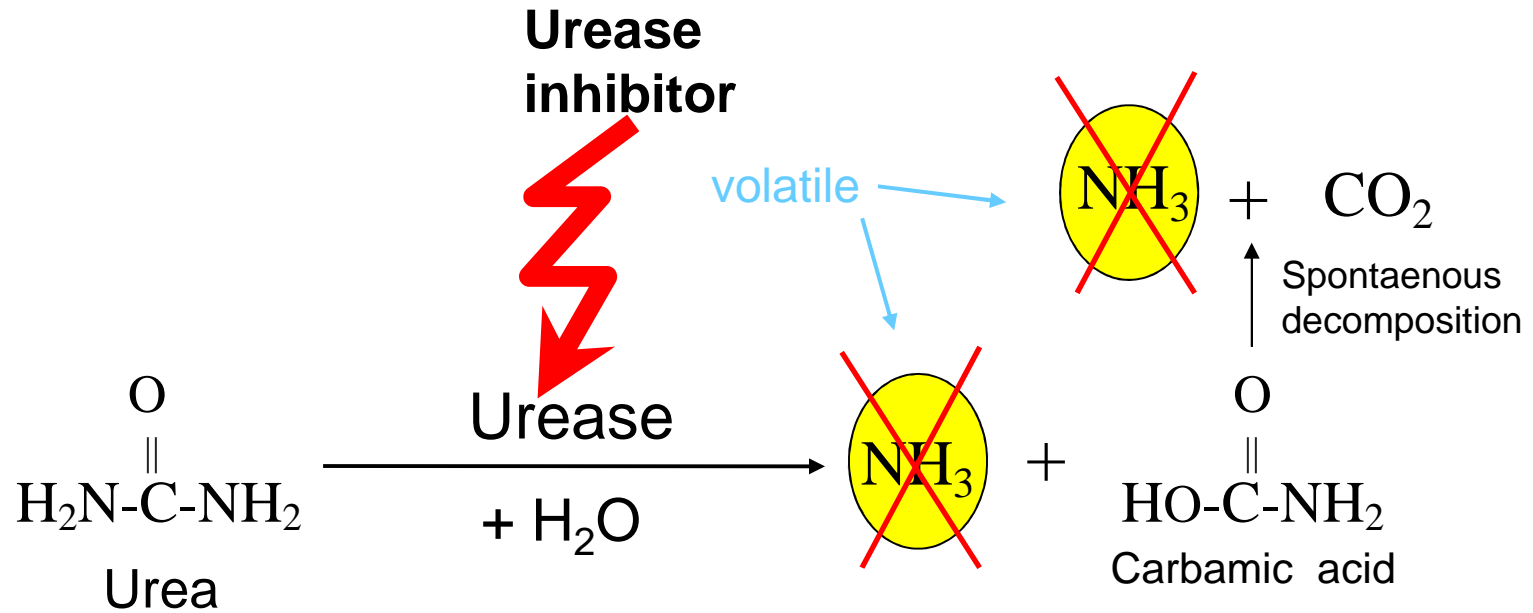
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Mode of action of urease inhibitors

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Urease inhibitors inhibit the activity of the enzyme urease for a certain period of time

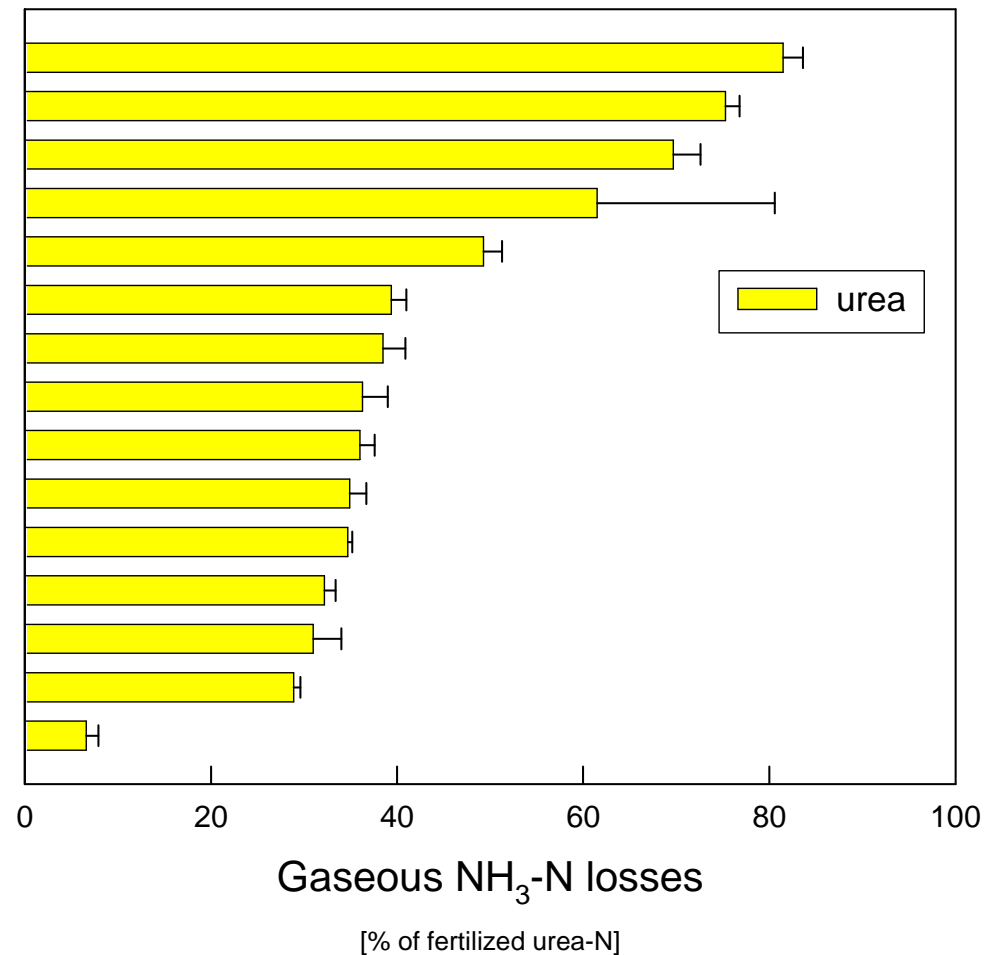
Volatilisation losses after the application of urea

Lab studies

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gaseous $\text{NH}_3\text{-N}$ losses from fertilized urea after 14 d under lab conditions depending on different European soils (D, F, I, E)

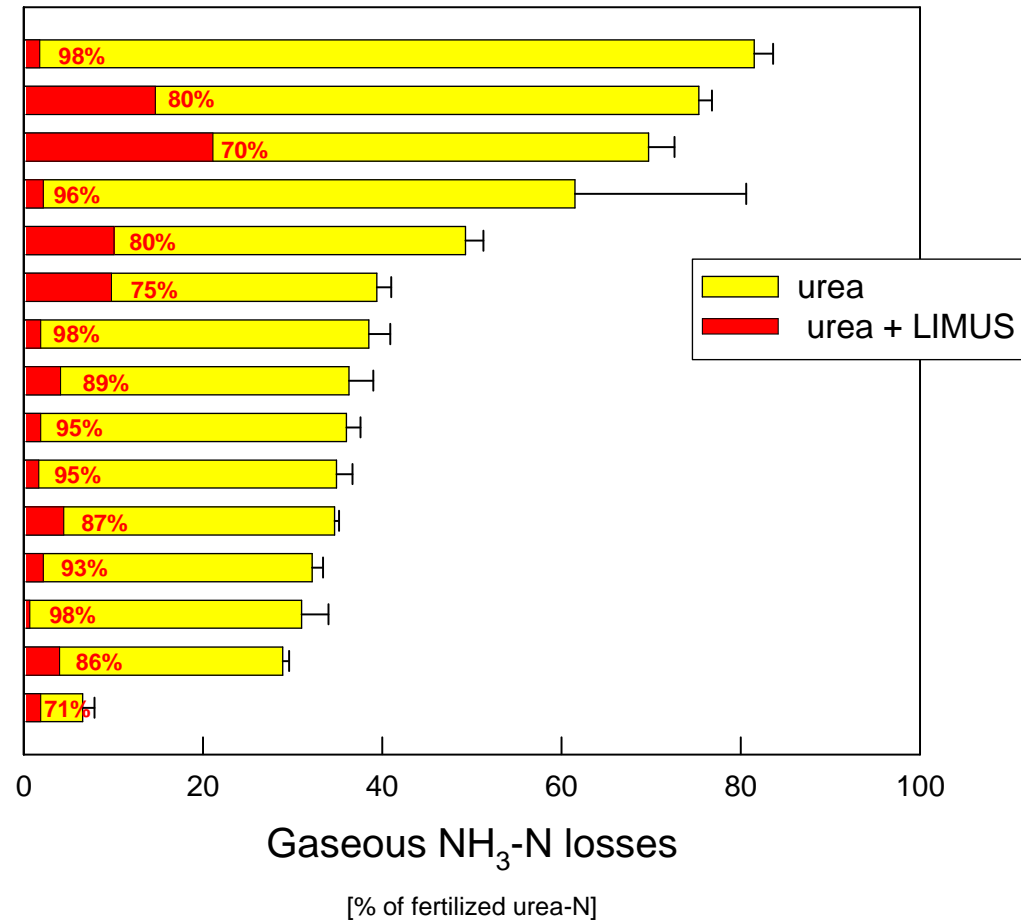


Reduction of volatilization losses after application of the urease inhibitor LIMUS on urea

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gaseous NH₃-N losses from fertilized urea and urea+LIMUS, resp. after 14 d under lab conditions depending on different European soils (D, F, I, E)

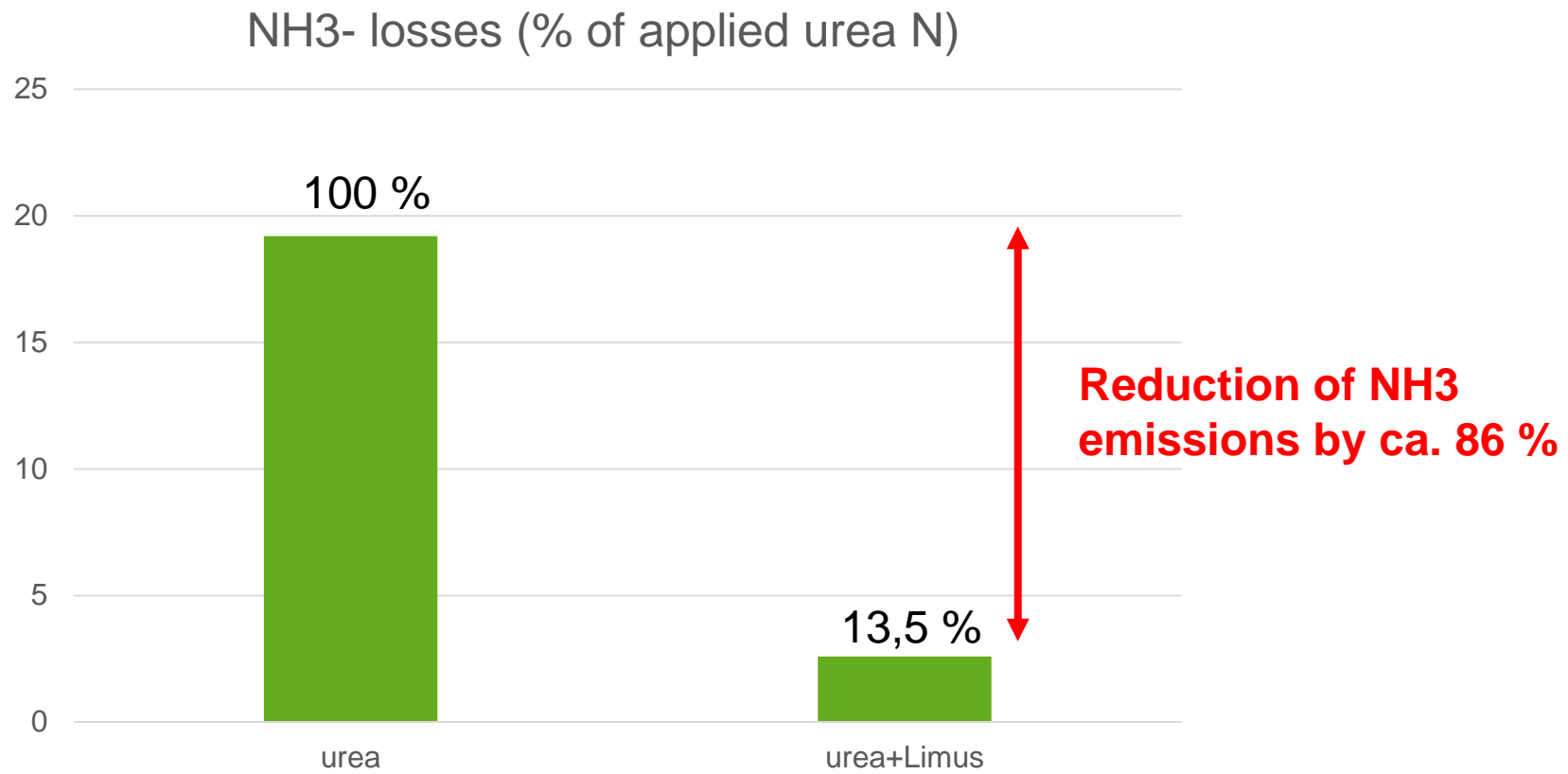


LIMUS reduced NH₃ emissions under lab conditions between 70 and almost 100%

NH3-N losses (% of applied urea N) of corn after application of different fertilizers

APE, 2012-2014

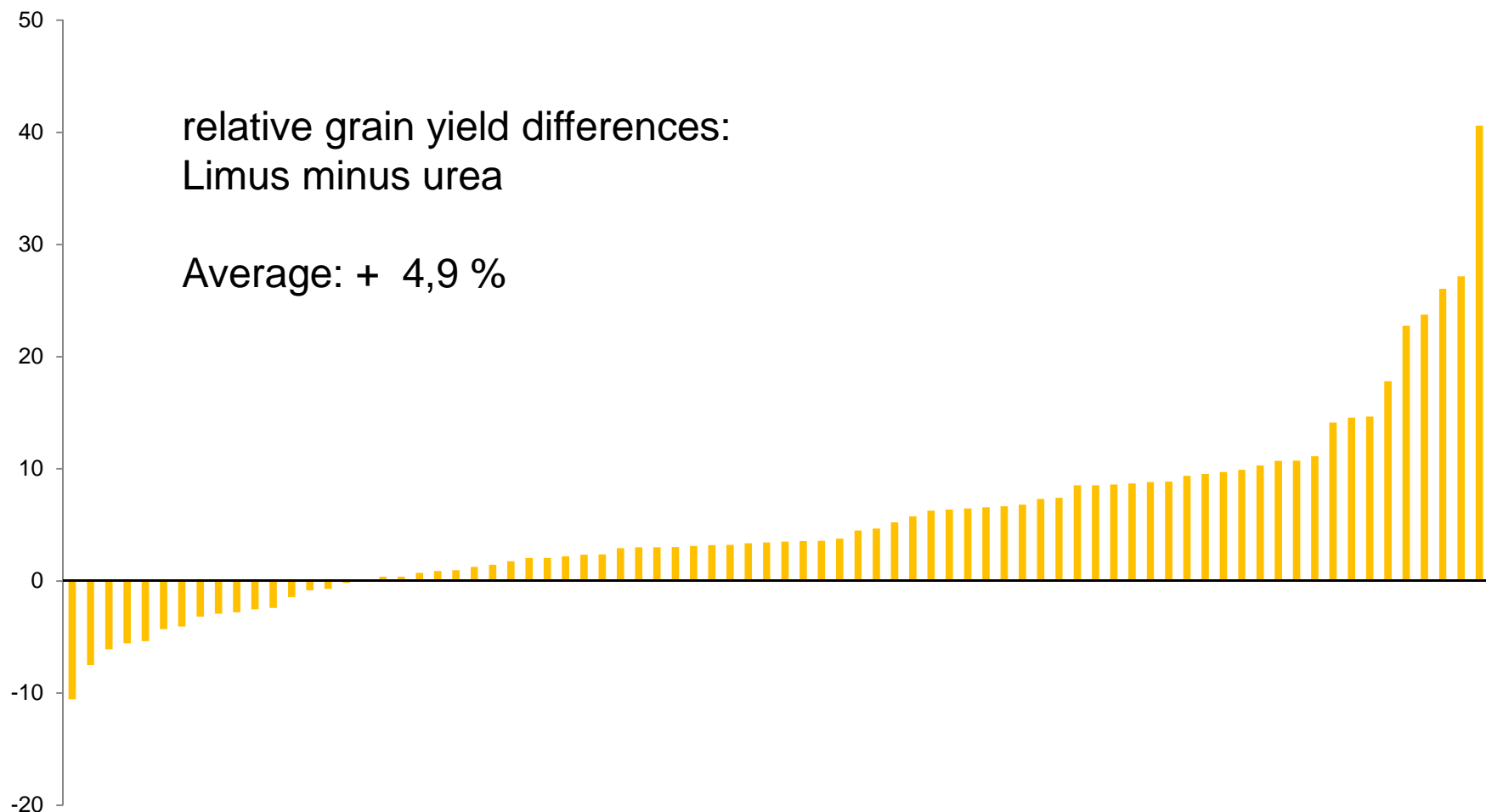
150 years



Limus: Field trial results 2014

APA, APN, APS (corn, wheat, rice, urea, UAN, n=79 best case)

150 years



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