

CoteN™: Continuous nitrogen nutrition for arable-crops

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Introduction

Arable crops require intensive, reliable and continuous supply of nitrogen. Nitrogen, which is more likely to be leached or volatilized, is generally applied in significantly excessive rates, to make up for losses. Alternatively, the required portion is split into several applications, which incurs additional labor.

The challenge: improved efficiency & less application operations

Recently, Haifa has launched CoteN™ and CoteN Mix™ - controlled-release nitrogen sources for arable crops:

- Based on state-of-the-art polymer coating technology (MulticoTech™)
- Nitrogen is released steadily and continuously throughout the season

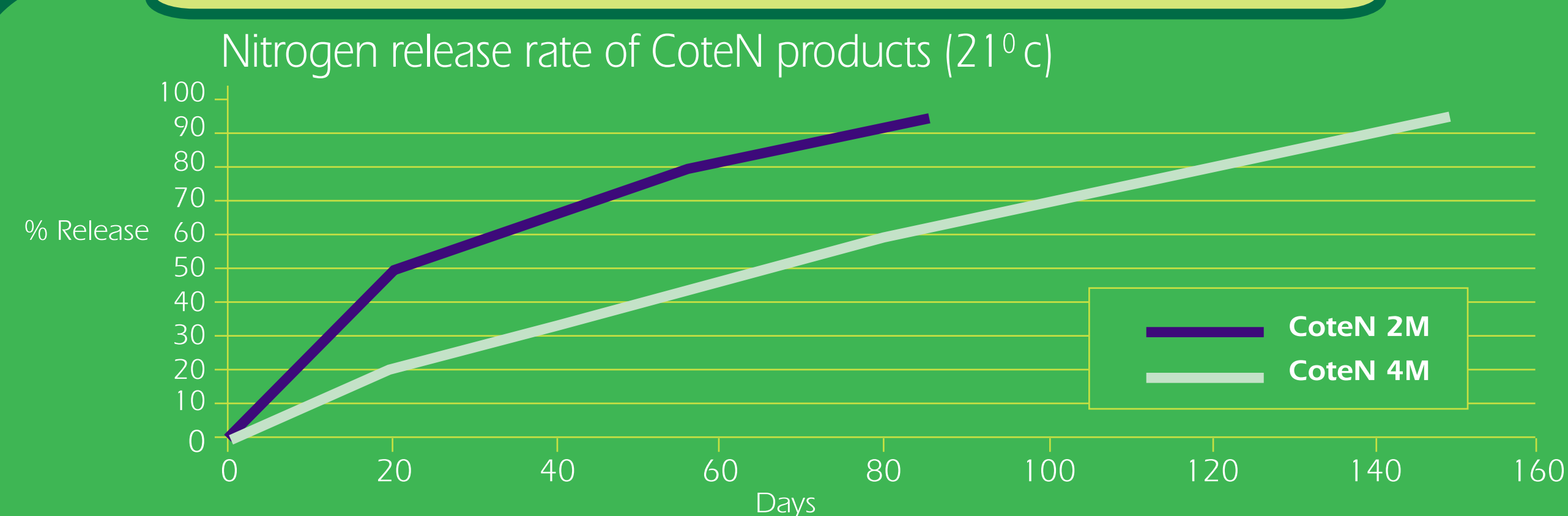
CoteN™: polymer coated urea. **CoteN Mix™**: blends of polymer-coated urea and readily available nutrients

Main benefits:

- A single nitrogen application per season
- Reduced application rates
- Minimized losses - reduced contamination of soil, water and air.
- Complying with environmental regulations

Lysimeter and field trials have shown that **CoteN™** and **CoteN Mix™** improve nitrogen use efficiency, allowing for reduced application rates

A. Release Curves of CoteN Products



Almost linear curve = steady release rate, continuous availability

B. Lysimeter trial

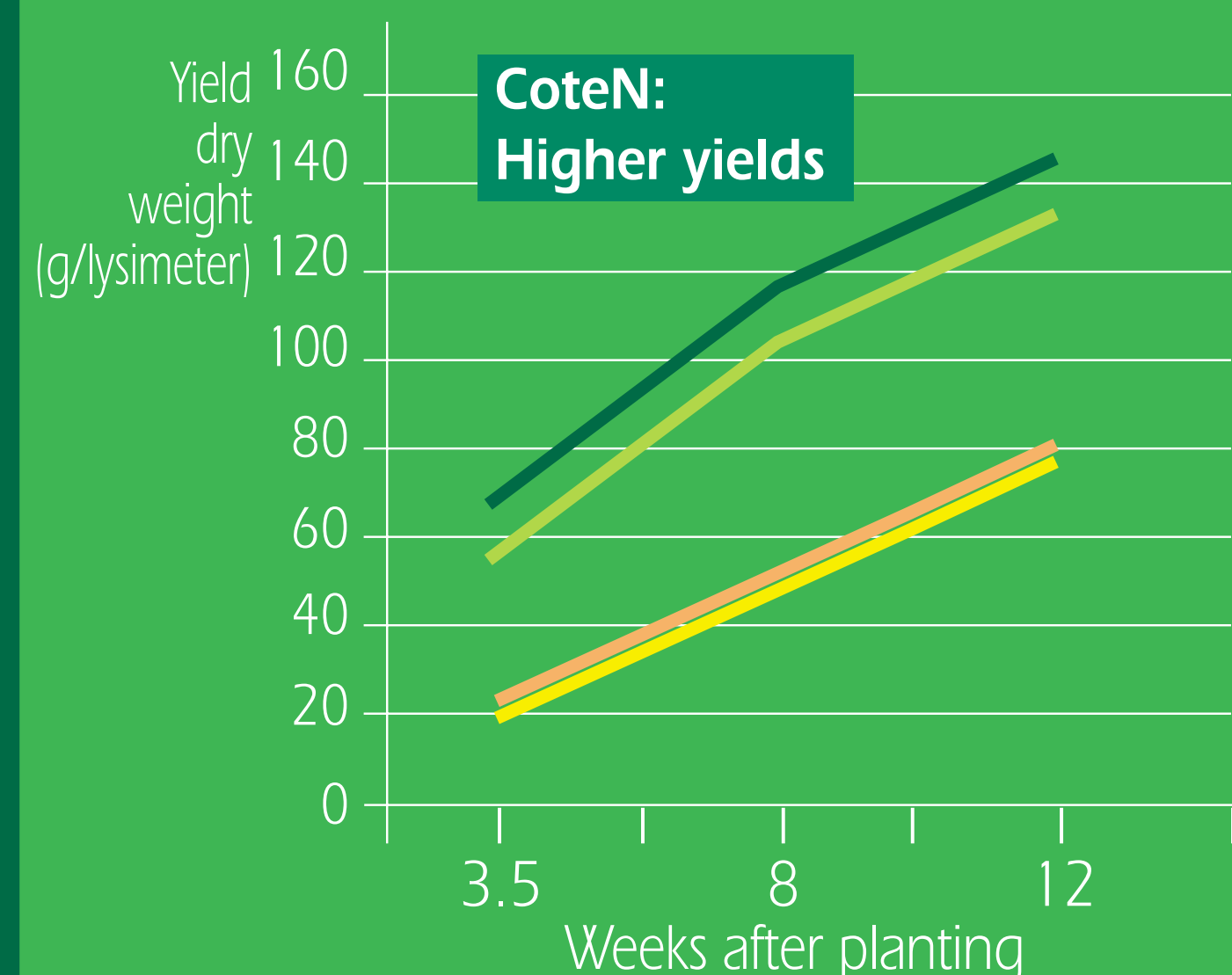
Basil (*Ocimum basilium*) grown on sandy loam (CEC=5 meq/100 g)
Irrigation: 3 drippers placed on soil surface, delivering 2 L/hour 2-3 times a week

Fertilization treatments:

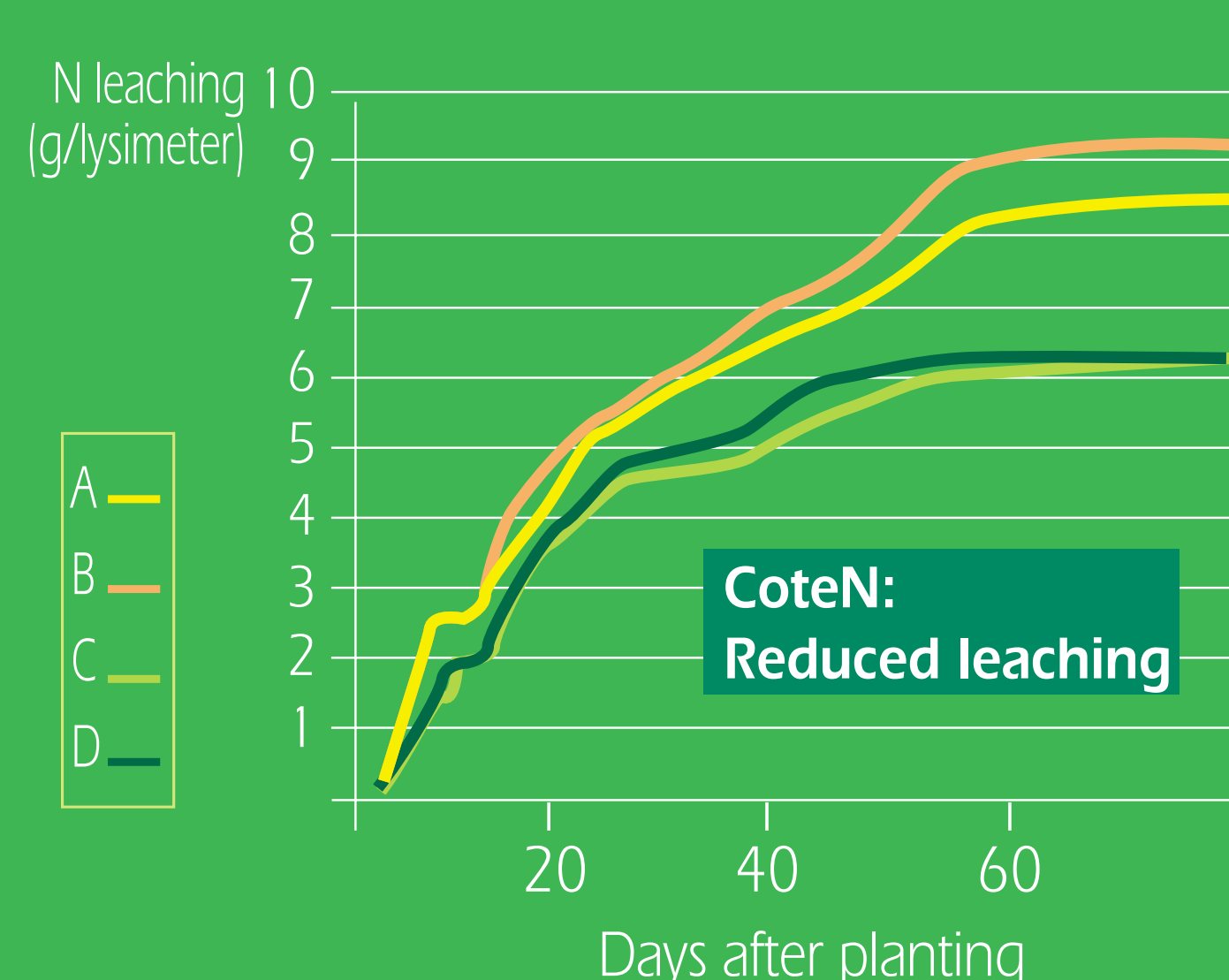
Treatment	No of applications
A Conventional, Full rate (16g N)	4
B Conventional, 80% of full rate	4
C CoteN, 80% of full rate	1
D CoteN, 80% of full rate, coated PK	1



Cumulative yield in lysimeter-grown basil plants



Cumulative leaching of nitrogen in drainage of basil plants



The trial was conducted by Prof. Avi Shaviv at the Technion (IIT) Israel

C. Field trials

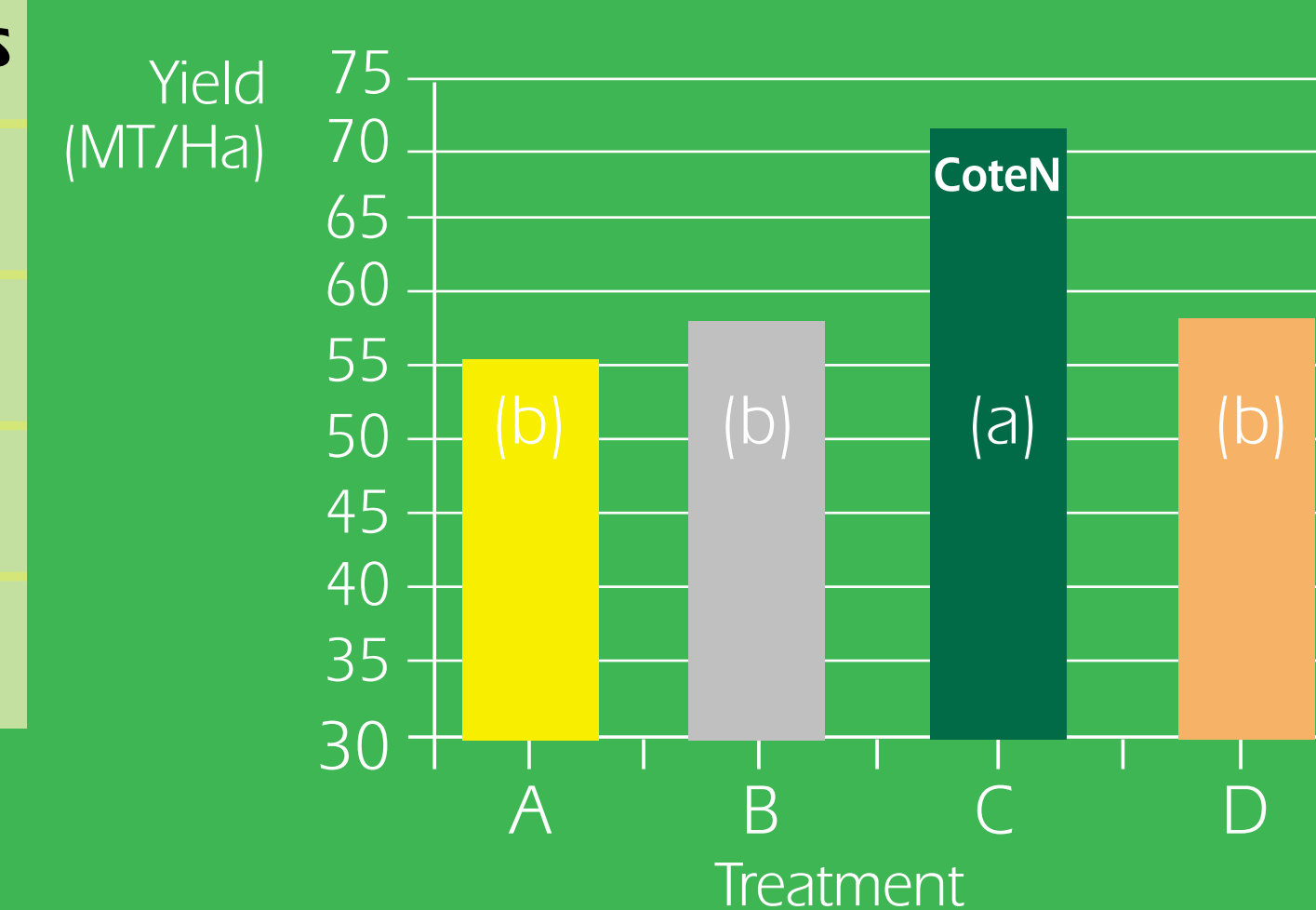


I. CoteN in Maize, Italy, Summer 2004

Maize cv. Hybrid "600" class
Location: Quinto Vicentino-IV, Northern Italy

Treatment	No of applications
A Conventional, full rate (225kg N/ha)	2
B Conventional, 70% of full rate	1
C CoteN Mix, 70% of full rate	1
D 70% of full rate, Urea+DMPP	1

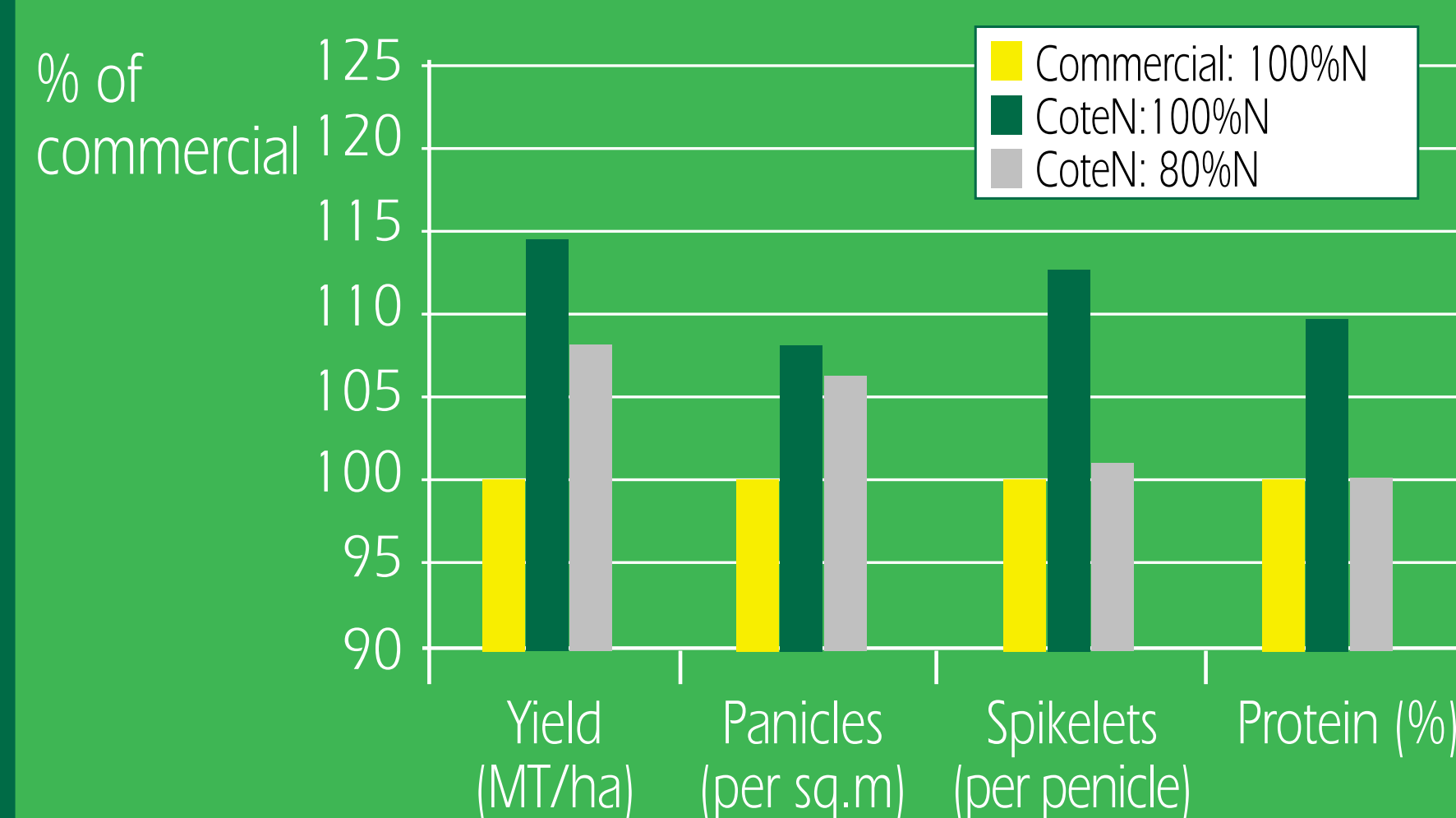
Silage Yield



The trial was conducted by Dr. Adriano Altissimo, Studio Agronomi Associati, Italy

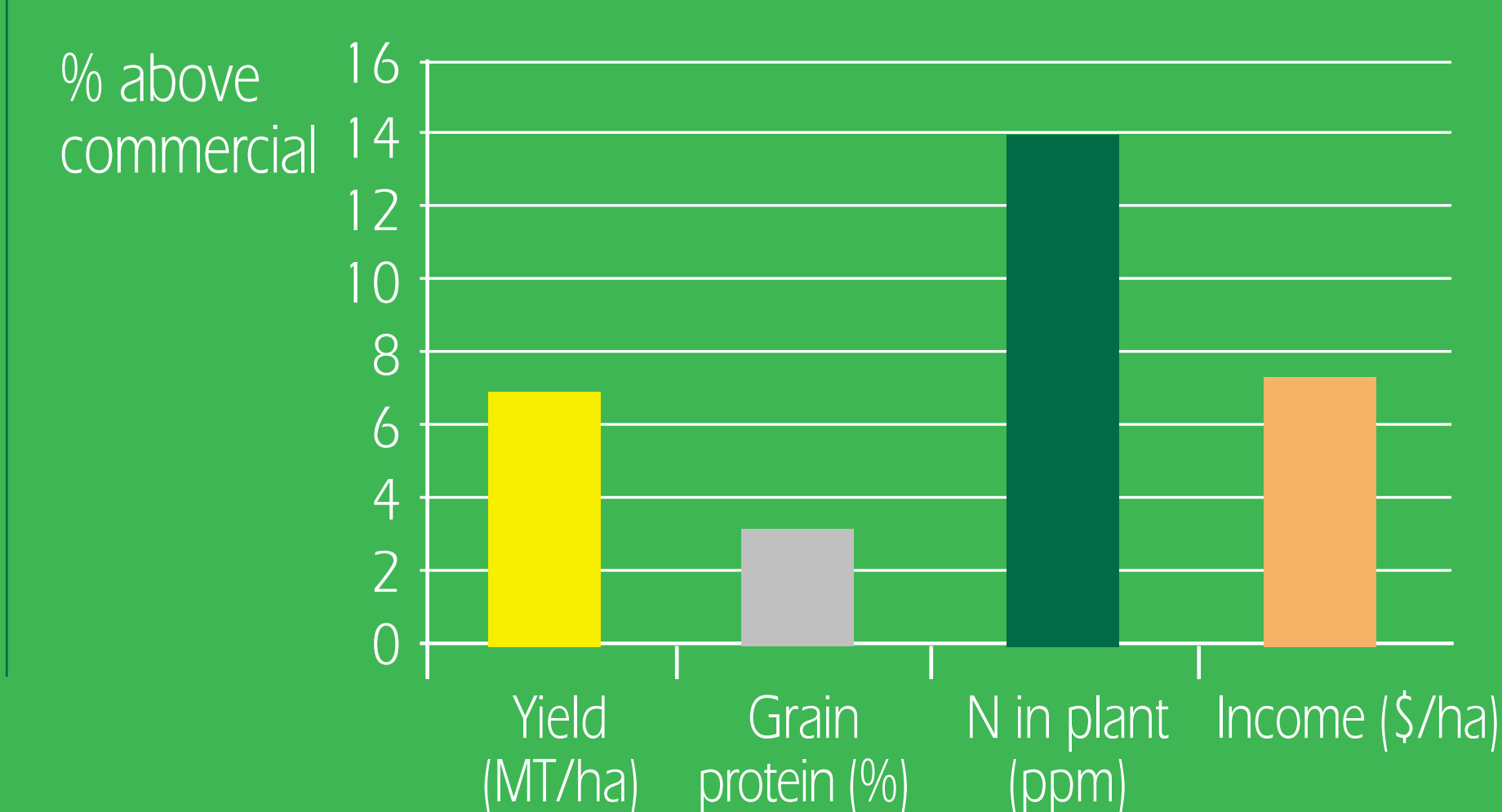
II. CoteN in Rice, Korea, 2003

Rice: cv. Chucheonbyeo.
Commercial treatment was 150 kg/ha of N, split into 3 applications
CoteN treatments were applied as base dressing.



III. CoteN in Wheat, Israel, 2003-2004

Wheat: cv. Rotem.
Commercial treatment was 50 kg/ha of N, split into base- & top-dressings
CoteN treatment was 50 kg/ha of N, applied as base dressing only.



CoteN™ for arable crops:

- Steady supply of nitrogen by single, pre-planting application
- Reduced application rates
- Similar or higher yields as compared to conventional fertilization
- Compliance with environmental regulations

Improved nitrogen use efficiency



Responsible Nutrients

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