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Indexes and efficiencies of N optimum dose reviewed as water- and Nitrogen- footprint

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In order to establish rational nitrogen (N) fertilization and reduce groundwater contamination, a clearer understanding of the N distribution through the growing season and its balance is crucial. In three successive years, a melon crop (Cucumis melo L. cv. Sancho) was grown under field conditions to determine the uptake of N fertilizer, applied by means of fertigation at different stages of plant growth. In addition, Strategies are being sought to increase water use in cropping systems and to reduce drainage. The estimation of N mineralized from soil organic matter is an essential tool to determine the amount necessary to optimize crop yield and minimize the environmental impact of excess N.

In this study we propose a methodology that allows us to study fertigated management integrating several aspects: economic and environmental. Even the complexity of the system, we have reduced the number of indexes and efficiencies need to establish the framework of N management and its economical and environmental consequences. At the same time, we have translated all them into a water- and Nitrogen- footprint in each year.

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