





## GreenSwitch® Nitrate

INNOVATIE

AWARD

The first liquid Nitrate fertilizer from organic source for high-tech greenhouse and open field fertigation





## GreenSwitch®, fertilizing a green future!

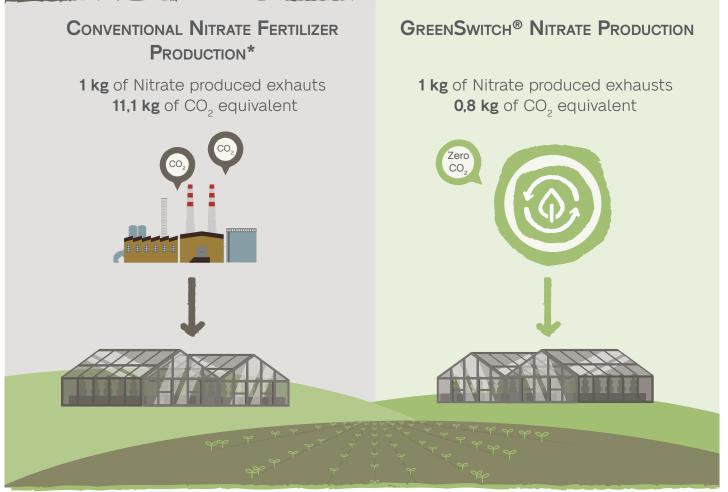


At Van Iperen International, we are glad to introduce GreenSwitch<sup>®</sup>, our innovative range of fertilizers to address agricultural challenges that modern agriculture faces today. GreenSwitch<sup>®</sup> opens a new horizon for more sustainable agriculture and precision crop nutrition.

The first group of products on the market is belonging to GreenSwitch® Nitrate. The world-first patented process based on Pure Green Agriculture technology turning manure into pure and transparent Nitrate fertilizers for the high-tech greenhouse sector and open-field fertigation. The first product available is GreenSwitch® Original, a Potassium Nitrate solution 2 - 0 - 7.

### How GreenSwitch<sup>®</sup> Nitrate works

GreenSwitch® Nitrate has a totally new approach by producing Nitrate from manure. In this process, the energy consumption is reduced by more than 90% compared to conventional Nitrate fertilizer production and the Carbon Footrpint of the production process of Nitrate is neglictable.



\* source: ecoinvent.org



# FACT: The synthetic N fertiliser supply chain was responsible for estimated emissions of 1.13 GtCO<sub>2</sub>eq in 2018, representing 10.6% of agricultural emissions and 2.1% of global GreenHouse Gas (ghg) emissions.

GreenSwitch® Nitrate production process has been proven\* to be close to zero Carbon footprint. By applying GreenSwitch® Original, growers reduce the CO<sub>2</sub> impact of their activity. Source: - <u>www.nature.com/articles/s41598-022-18773-w</u> - www.nationaleco2markt.nl/wp-content/uploads/2020/08/methode-GreenSwitch.pdf



## FACT: Circular agriculture means to close the loops and use waste products from agriculture as input for other crops.

GreenSwitch® Nitrate captures Nitrogen out of manure to produce a high value Nitrate solution. We call this up-cycling.



## FACT: Agriculture is responsible for most (94%) of the Ammonia (NH3) emissions in the European Union.

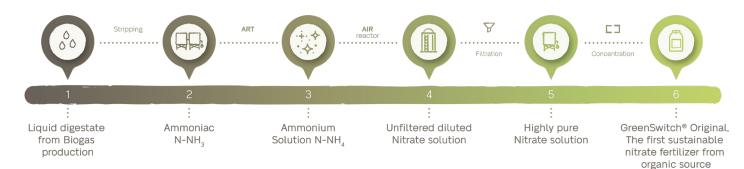
By applying GreenSwitch® Technology the volatilization of Ammonia is null. Source: - <u>www.eea.europa.eu//publications/lrtap-1990-2019</u>

### The GreenSwitch® Nitrate factory



The GreenSwitch® Nitrate factory is located at the Biogas installation AgroEnergie Hardenberg (The Netherlands). This facility is a stateof-the-art biogas producer, in which green energy production is now combined with our green nitrate production. A true partnership that opens new opportunities also at other biogas installations elsewhere

in the world. The GreenSwitch® system is flexible and highly customized. To understand better GreenSwitch® Nitrate process, here's a visual description of all steps:



## **GreenSwitch®** Ambassadors



### Hoogeveen Plants aims to be fully climate-neutral by 2030. For it, they've integrated GreenSwitch<sup>®</sup> Original into their fertilization program.

"After several months of use, we are satisfied with the use of GreenSwitch® Original and moreover, it contributes to reduce our  $CO_2$  foorptint"

**Eduard Pos,** Crop Manager at Hoogeveen Plants, The Netherlands

## GreenSwitch® Original HG

GreenSwitch® Original HG is the first liquid Nitrate fertilizer from organic source, allowing growers to reduce their carbon footprint without changing their cropping system. GreenSwitch® Original is a 2 - 0 - 7 formulation pure and transparent for high-tech greenhouse and open field fertigation. It is produced in our factory in the Netherlands using a proven close to zero Carbon footprint production process certified by the SNK (Stichting Nationale Koolstofmarkt) following the Paris agreement (COP 21).

- 🥦 The first liquid Nitrate fertilizer from organic source
- Mitrogen directly available and assimilable by the crop
- >> Patented, close to zero carbon footprint Nitrate production process
- >> Developed for open field, pot production and soilless application
- 🥦 Guaranteed free of pathogens and organic contamination

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#### Composition

Nitric Nitrogen (NO<sub>3</sub>) 2%Potassium Oxide (K<sub>2</sub>0) 7%

#### Packaging



