

# Cucumber Cultivation USDA Organic

## VitalFluid Natural Nitrogen as a Nutrient for Cucumbers

**Goal:** What is the effect of VitalFluid Natural Nitrogen in USDA-organic cucumber cultivation versus traditional cultivation with “normal fertilizers”.

**Crop:** Cucumber variety Gideon

**Trial period:** September 29, 2021 – November 15, 2021

**Location:** Greenhouse Herman Keijzers  
Antwerpsebaan 8  
5505JG Veldhoven  
The Netherlands

**Client:** Confidential

## Benefits of using VitalFluid Natural Nitrogen

- ⚡ 30-40% more yield in USDA organic cultivation
- ⚡ Producing calcium nitrate on-site

## Challenge of using VitalFluid Natural Nitrogen

- ⚡ Challenge to mix calcium source with nitrate



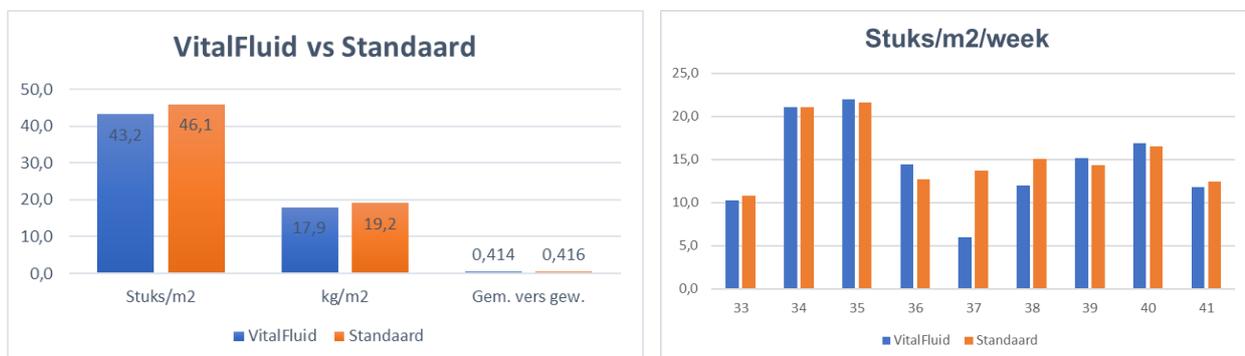
## Trial Design

The trial was set up in a greenhouse where the plants were grown on substrate and the nutrient water was recirculated through an irrigation system with drippers. Six trial fields with six plants each were compared for nine weeks in the greenhouse. Three test fields were given a nutrient recipe using only VitalFluid Natural Nitrogen as the nitrate source. The reference test was fed with traditional nutrients. One of the challenges in the trial in the VitalFluid fields was maintaining the level of nitrate while adding calcium. The original calcium source did not react well with the nitrate causing shortage of nitrogen. However, this was solved by adding an appropriate USDA organic approved calcium source.

## Results

The trial shows that comparable production levels can be achieved with VitalFluid Natural Nitrogen in USDA organic cultivation compared to traditional cultivation with "normal fertilizers". This means 30-40% more production in a USDA organic crop.

The figures show a dip in weeks 37 and 38, the reason for this is that the growth of the side shoots has lagged behind during the production of the cucumber stem. This is due to the lack of nitrate during this period which was caused by a reaction of using the wrong calcium source. When the correct calcium source is used, this dip will not occur.



## Conclusion

VitalFluid Natural Nitrogen can be used as a nutrient to feed cucumber in USDA organic cultivation.\*

For more information, please contact VitalFluid.

*\*registration is needed*

