



**REVOLUTIONIZE  
YOUR  
AGRICULTURE  
WITH  
Barbary Plante®  
EVOLUTION**

**FERTILIZER**  
HYDRO **RETENTIVE**  
Barbary Plante  
**EVOLUTION**

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**FERTILIZER**  
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**A TECHNOLOGY  
FOR ECONOMIC,  
SUSTAINABLE  
&  
RESPONSIBLE  
AGRICULTURE**

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**DISCOVER  
A NEW  
AGRICULTURAL  
ERA**



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water  
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**Improve your  
yields**

A close-up photograph of several bright orange oranges hanging from a tree with green leaves. The oranges are in sharp focus, while the background is softly blurred, showing more oranges and foliage. The lighting is natural, highlighting the texture of the orange peels.

**FERTILIZER**  
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**Optimize your  
production with  
faster crop  
cycles and  
abundant  
harvests for  
responsible food  
security**

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**CHOOSE  
SUSTAINABILITY  
FOR YOUR FARM**

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**Reduce nitrates**

**Protect your soils  
and our waters**



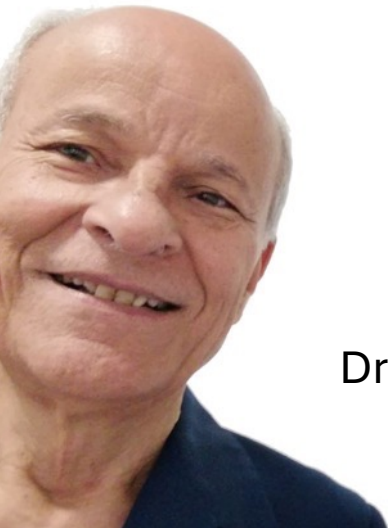
**FERTILIZER**  
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**Minimize  
greenhouse  
gases and your  
environmental  
footprint**

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**EVOLUTION**

**INVENTOR  
&  
INNOVATION**



Dr Salah BARBARY



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PCT

ORGANISATION MONDIALE DE LA PROPRIÉTÉ INTELLECTUELLE  
Bureau international

DEMANDE INTERNATIONALE PUBLIÉE EN VERTU DU TRAITE DE COOPERATION EN MATIERE DE BREVETS (PCT)

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		(43) Date de publication internationale: 29 avril 1999 (29.04.99)
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(22) Date de dépôt international: 21 septembre 1998 (21.09.98)		
(30) Données relatives à la priorité: 97/13029 17 octobre 1997 (17.10.97) FR		
(71)(72) Déposant et inventeur: BARBARY, Salah [EG/FR]; 4, place du Panthéon, F-75005 Paris (FR).		
(74) Mandataire: CABINET WAGRET, 19, rue de Milan, F-75009 Paris (FR).	Publiée Avec rapport de recherche internationale.	
(54) Title: COMPOSITIONS FOR CULTIVATING SOIL WITH REDUCED FERTILITY		
(54) Titre: COMPOSITIONS DESTINEES A LA CULTURE EN SOL DE FERTILITE REDUITE		
(57) Abstract		
The invention concerns a composition in particular for stimulating germination, sprouting and growth in soil with reduced fertility, comprising at least one hydrophilic substance optionally containing a limited amount of water, characterised in that it also comprises at least any one of the following elements alone or in combination: nutrients; soil improving products; parasiticides; hormones stimulating root growth capacity; products adjusting soil salinity; herbicides; growth-regulating products; disease-curing products; odorizing products; fertilisers with slow diffusion; antifrost products; products for activating sap flow; products comprising bacteria for treating water, soil, wastes and/or the like; fire-proof products; the hydrophilic substance being capable of trapping at least one of said products and of reducing their filtering into the soil or evaporating into the air.		
(57) Abrégé		
La présente invention concerne une composition destinée notamment à favoriser la germination, la pousse et la croissance de culture en sol à fertilité réduite, comportant au moins une substance hydrophile contenant éventuellement une quantité limitée d'eau, caractérisée en ce qu'elle comprend également au moins l'un quelconque des éléments suivants, seul ou en combinaison: éléments nutritifs; produits de biofertilisation du sol; produits destinés à lutter contre les parasites; hormones susceptibles de favoriser le développement des racines; produits correcteurs de la salinité du sol; herbicides; produits régulateurs de la croissance; produits curatifs contre des maladies; produits odorants; engrais à diffusion ralentie; produits antigel; produits permettant d'activer la circulation de la sève; produits comprenant des bactéries de traitement de l'eau, du sol de déchets et/ou autres; produits anti-incendie; la substance hydrophile étant apte à piéger l'un au moins des produits en son sein et à réduire leurs filtrations dans le sol ou leur évaporation dans l'air.		

The innovative concept of  
Fertilizers Water-Retentive  
was developed by  
**Dr Salah Barbary.**

After six years of research and  
development, this invention was  
officially **patented in 1987**,  
introducing a revolutionary solution in  
agriculture.

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Barbary Plante  
EVOLUTION

# DIPLÔME

15<sup>e</sup> SALON INTERNATIONAL  
DES INVENTIONS ET DES  
TECHNIQUES NOUVELLES  
GENÈVE 1987

APRÈS EXAMEN ET DÉLIBÉRATION, LE JURY INTERNATIONAL RECONNAÎT LES  
HAUTES QUALITÉS DE L'INVENTION QUI LUI A ÉTÉ PRÉSENTÉE ET DÉCIDE DE  
REMETTRE À: MONSIEUR SALAH BARBARY

POUR L'INVENTION: BARBARY PLANTE

UNE MÉDAILLE D'OR

GENÈVE LE 14 AVRIL 1987

LE PRÉSIDENT DU JURY  


LE PRÉSIDENT DU COMITÉ  
D'ORGANISATION  


**In 1987,**  
Dr. Salah Barbary received the  
**gold medal** from the World  
Intellectual Property  
Organization (WIPO) at the  
Geneva Invention and New  
Techniques Fair, an exceptional  
recognition of his innovative  
work and significant contribution  
to progress.



Fertilizer Hydro Retentive  
Granules  
**Barbary Plante® G4**  
Non-hydrated Version

# Fertilizer Hydro Retentive?



Fertilizer Hydro Retentive  
Capsules  
**Barbary Plante® G3**  
Hydrated Version

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The **Barbary Plante**® G4 & G3 Fertilizer Hydro Retentive combine the concepts of fertilizer and water retainer.

### Fertilizer

Composed of traditional fertilizers: powdered nitrogen, phosphorus, and potassium, and trace elements encapsulated in a hydrogel that preserves nutrients, making them available only to plant roots.

### Hydro retentive

In the form of a biodegradable agricultural superabsorbent copolymer developed by Dr. Salah Barbary that optimizes water management and soil quality.

This combination promotes crop growth and protection, optimizes water management and soil quality, and contributes to environmental protection.



# BARBARY PLANTE®?

It is the registered trademark representing the innovative concept of Fertilizers Hydro Retentive developed by Dr. Salah BARBARY worldwide.



# WHY EVOLUTION?

**Barbary Plante**<sup>®</sup> products continuously evolve through an improvement process based on numerous scientific reports and a constant commitment to research and development.

**This ensures innovative and sustainable agricultural solutions to address global challenges.**



# PRODUCTION



The production of **Barbary Plante**<sup>®</sup> **Evolution** Fertilizers Hydro Retentive is managed by the **SNF Group**, headquartered in France, at their factory in Andrézieux-Bouthéon (42).

This company specializes in water chemistry and exclusively produces **Barbary Plante**<sup>®</sup> **Evolution** Fertilizers Hydro Retentive for the inventor, Dr Salah BARBARY, according to his specifications.

The **SNF Group** ensures large-scale production, guaranteeing the production and quality of **Barbary Plante**<sup>®</sup> **Evolution** Fertilizers Hydro Retentive.

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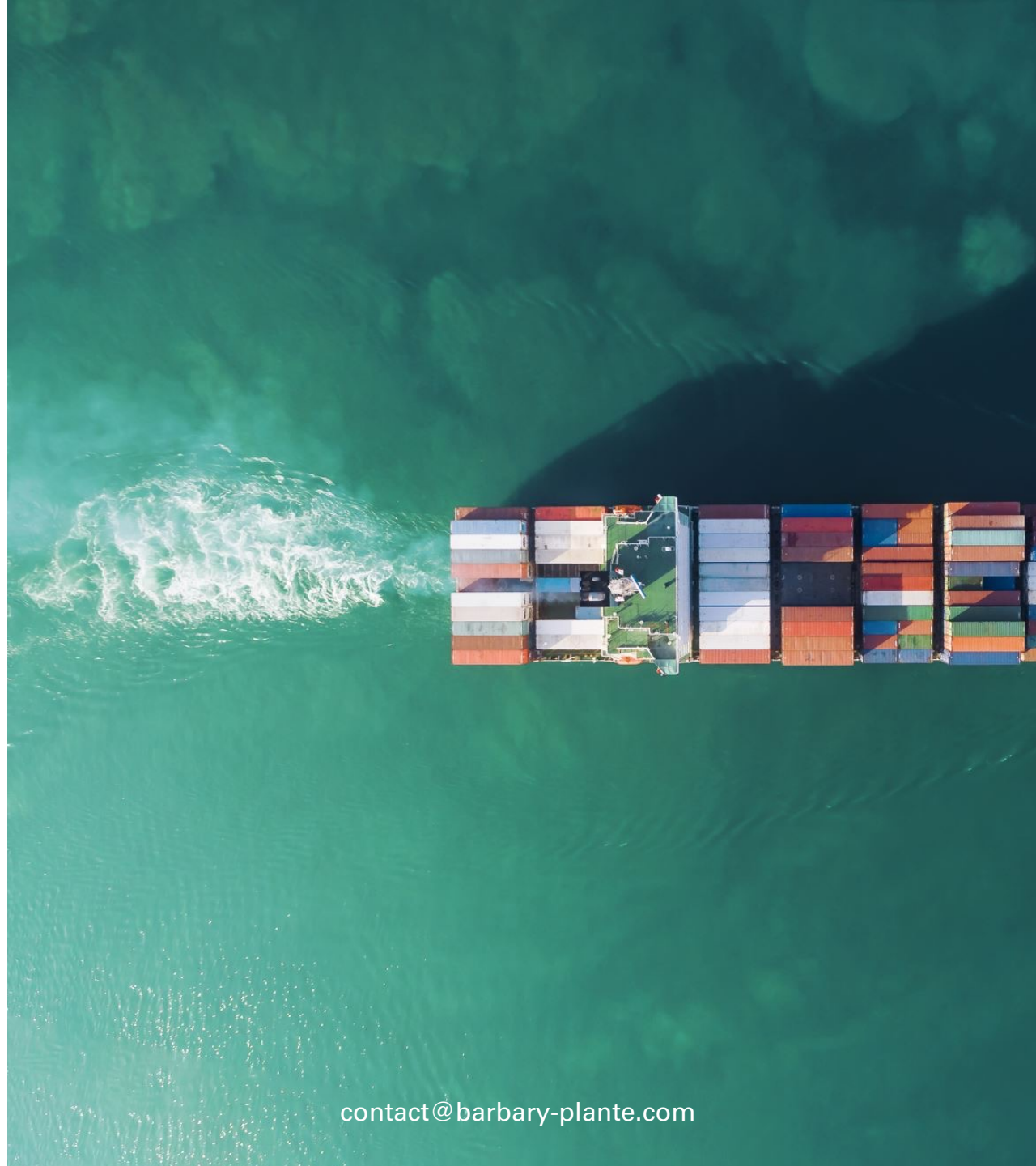


# COMMERCIALISATION

This production partnership guaranteed by the SNF Group allows the inventor, Dr. Salah BARBARY, to fully dedicate himself to the development and promotion of **Barbary Plante**<sup>®</sup> products.

The exclusive distribution of **Barbary Plante**<sup>®</sup> Evolution Fertilizers Hydro Retentive is handled by Dr. Salah BARBARY through the global sales network AGRO FRANCE INTERNATIONAL HOLDING, present in over 60 countries.

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EVOLUTION



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# STANDARD RANGE

**NPK BARBARY PLANTE G4**

**NPK BARBARY PLANTE G3**

**UREE BARBARY PLANTE G4**

**UREE BARBARY PLANTE G3**

**DAP BARBARY PLANTE G4**

**DAP BARBARY PLANTE G3**

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# FOR ALL TYPES OF SOIL



Desert soils, sterile lands, arid soils, saline soils, acidic soils, clay soils, loamy soils, humus-rich soils, calcareous soils, organic soils, alluvial soils, and any other type of soil.

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# FOR ALL TYPES OF CROPS

Cereal crops, vegetable crops, fruit crops, viticulture, forage crops, oilseed crops, and textile plant crops.



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# FOR ALL FARMING METHODS

Intensive farming, extensive farming, open-field farming, greenhouse and tunnel farming, hydroponics, aquaponics, agroforestry, permaculture, conservation agriculture, organic farming, urban agriculture...

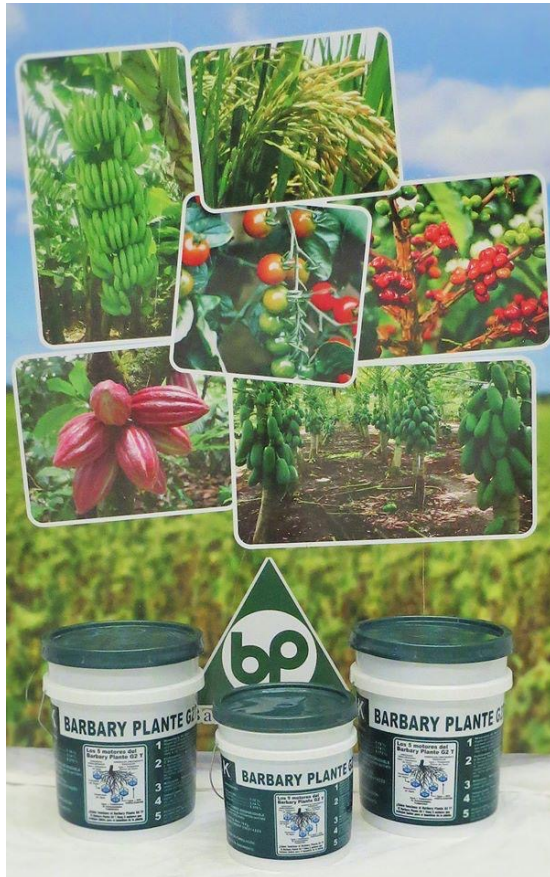


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# FERTILISANT HYDRO RETENEUR Barbary Plante EVOLUTION



## TO GUARANTEE

- Improvement in production
- Shorter crop cycles
- Crop protection against drought
- Increased plant resistance to diseases
- Regeneration of deficient trees
- Lower production costs
- Environmental protection



# FUNCTIONING MECHANISM

## Conventional Fertilizers

### Absorption by "Proximity"

Traditional fertilizers are generally spread on the soil surface, either manually or with machines, and then watered to allow their dilution in the soil near the roots, thus promoting their absorption.

## Fertilizers Hydro Retentive **BP**

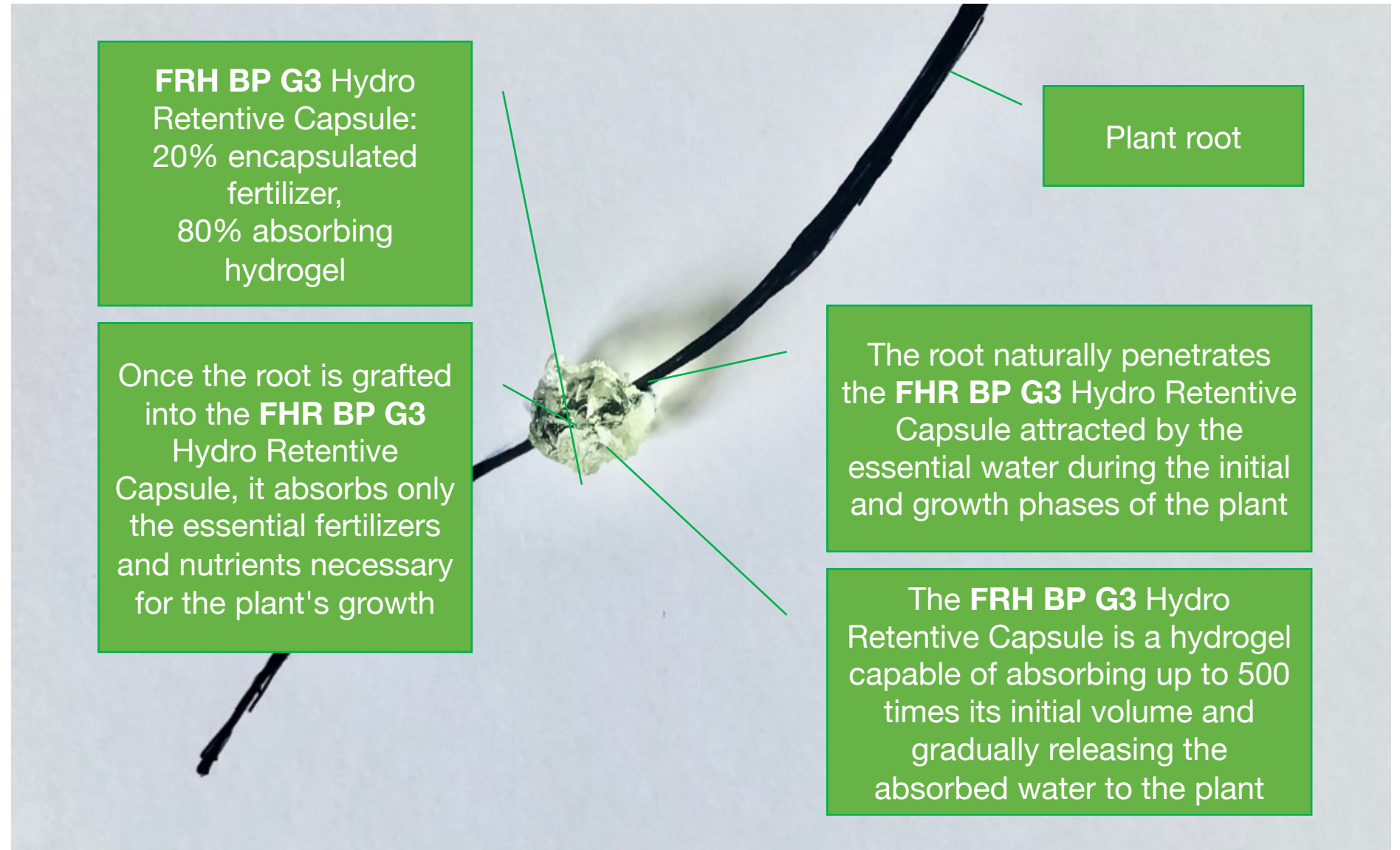
### Absorption by "Grafting"

**Barbary Plante**<sup>®</sup> fertilizers hydro retentive are incorporated into the soil, either manually or with machines, and are thus directly mixed with the soil. As water retainers, they attract plant roots, which graft onto them, thereby providing the necessary nutrients for their growth.

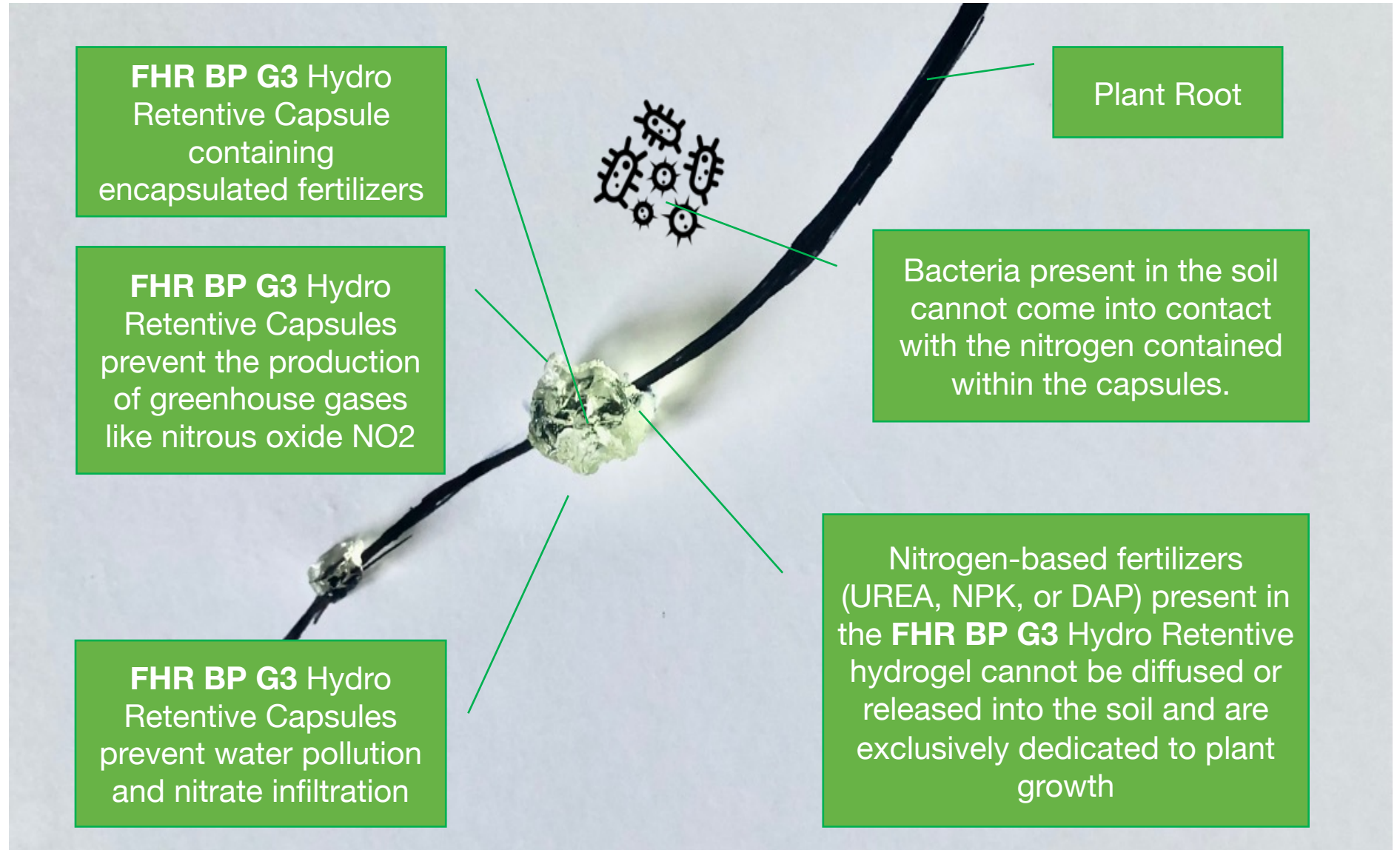


## THE FUNCTIONING MECHANISM

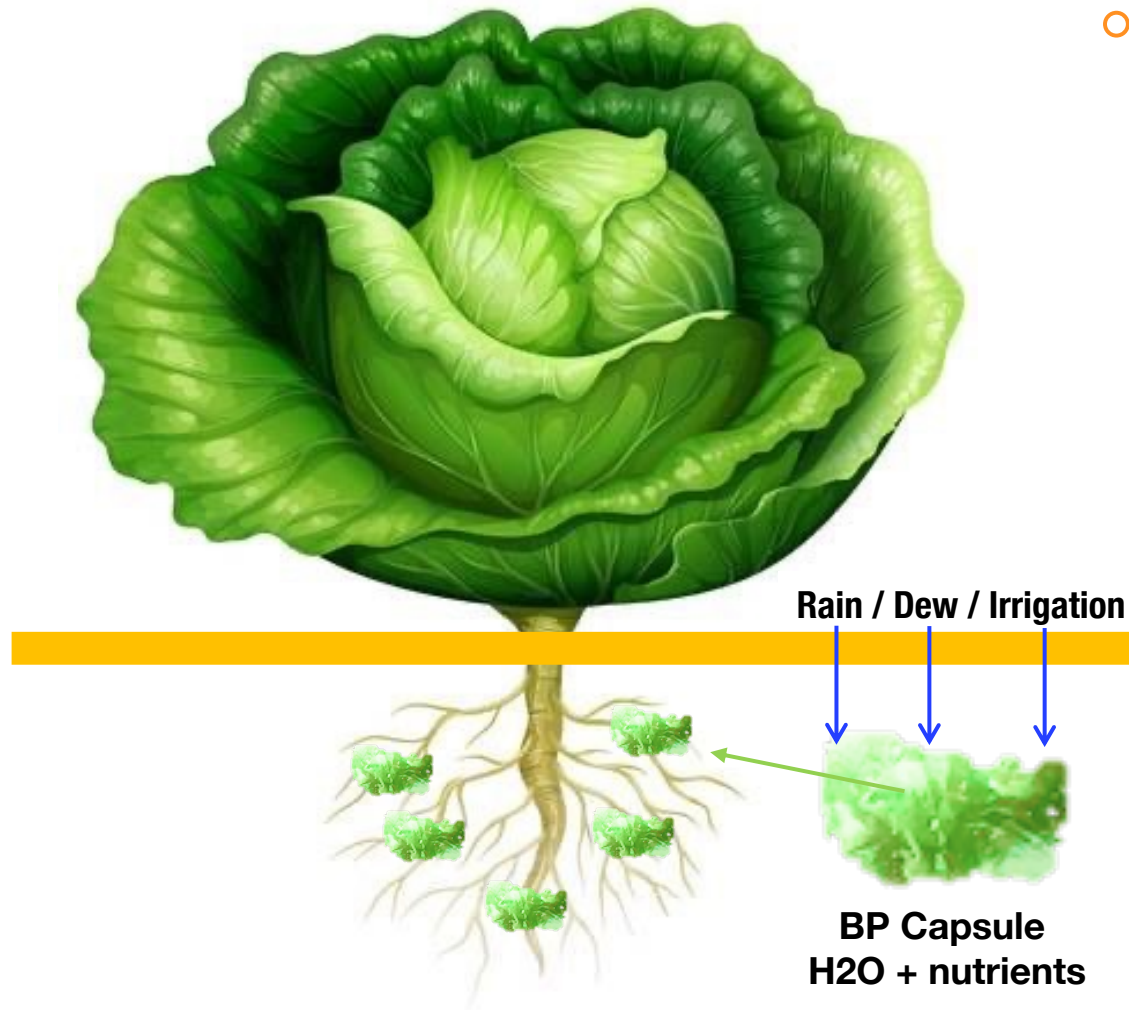
A UNIQUE DESIGN  
THAT ALLOWS  
PLANT  
ROOT GRAFTING  
ON  
BP G3 CAPSULES  
FOR A SLOW  
RELEASE  
OF NUTRIENTS  
AND  
WATER  
ACCORDING  
TO THE PLANT'S  
NEEDS.



**HOW  
FERTILIZERS  
HYDRO  
RETENTIVE  
BP G3  
PREVENT  
THE  
ENVIRONMENTAL  
IMPACT  
LINKED TO  
TRADITIONAL  
FERTILIZERS  
(UREA, NPK,  
AND DAP)**



Example of **Barbary Plante® Evolution**  
Capsule grafting on plant roots.



## AGRICULTURAL COMPLEX

1. Fertilizers + Microelements
2. Roots
3. Water reservoir
4. Preventive immunizer
5. Water pH regulator



# 1. FERTILIZERS AND MICROELEMENTS

## FERTILIZER HYDRO RETENTIVE

**N.P.K.** (Nitrogen (N). Phosphorus (P). Potassium (K))

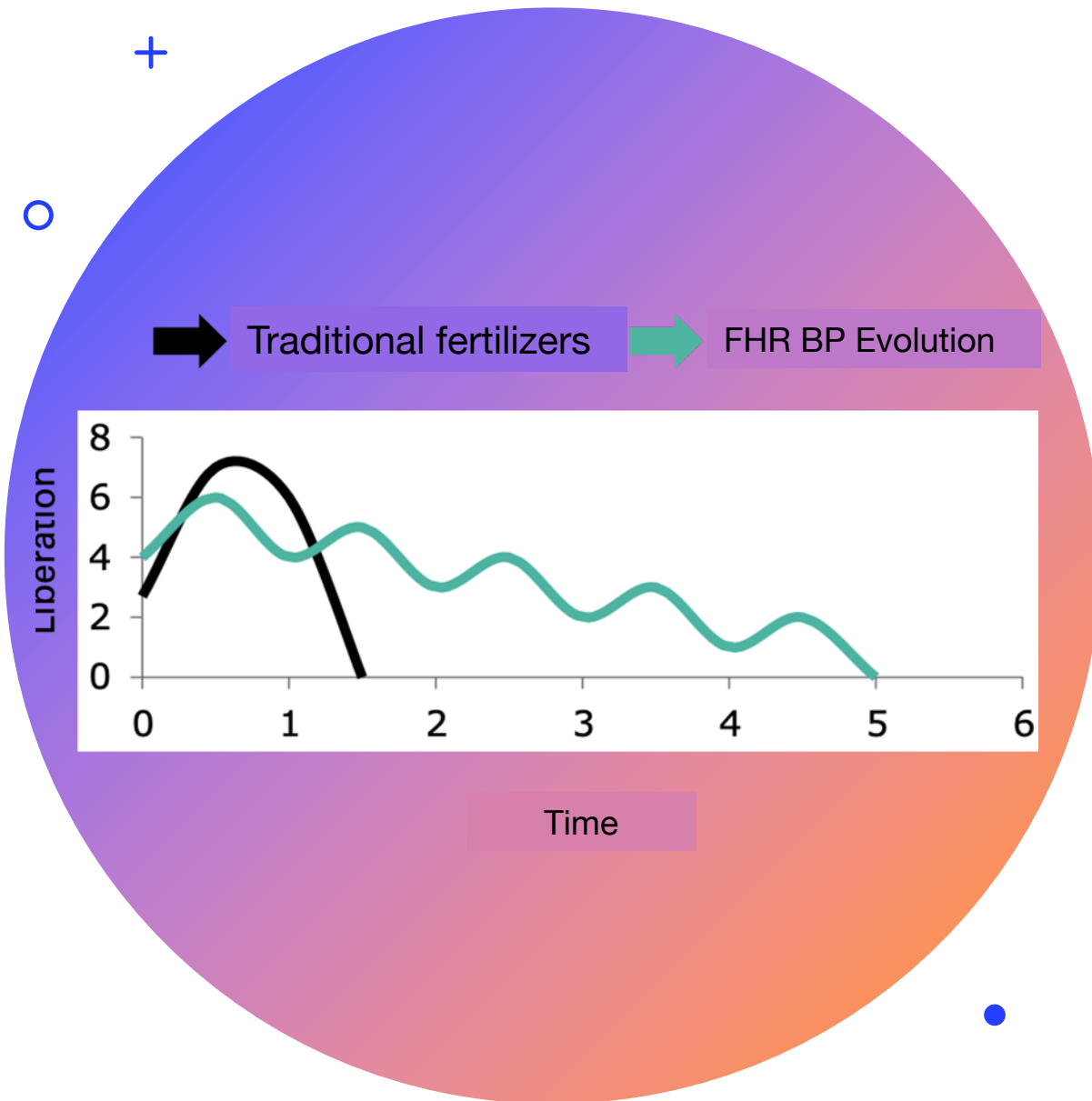
**UREE** (Nitrogen)

**DAP** (Di Ammonium Phosphate)

Microelements

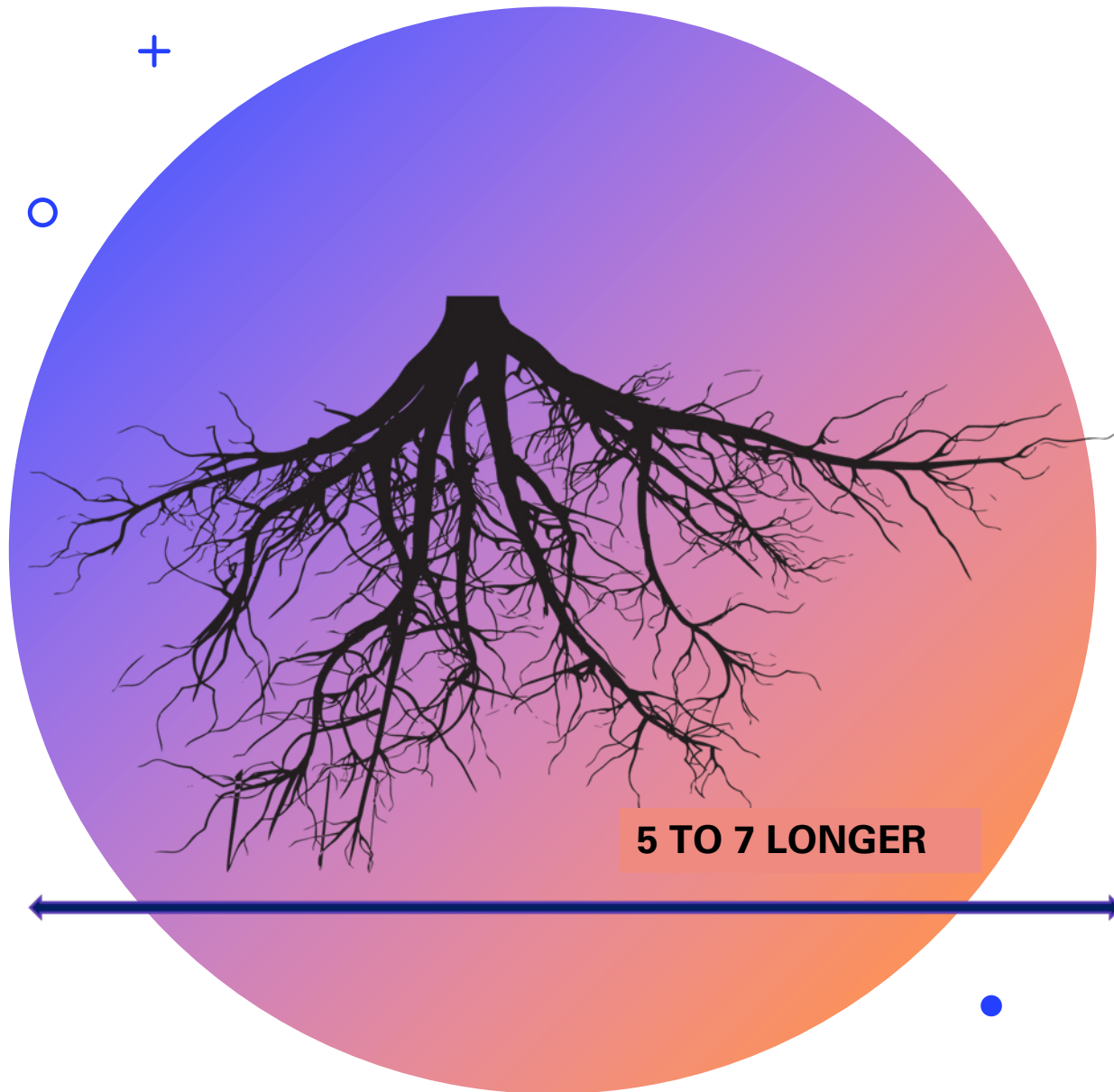
Amino acids

**SLOW RELEASE**



## 2. ROOTS

Radical minerals that  
increase root size

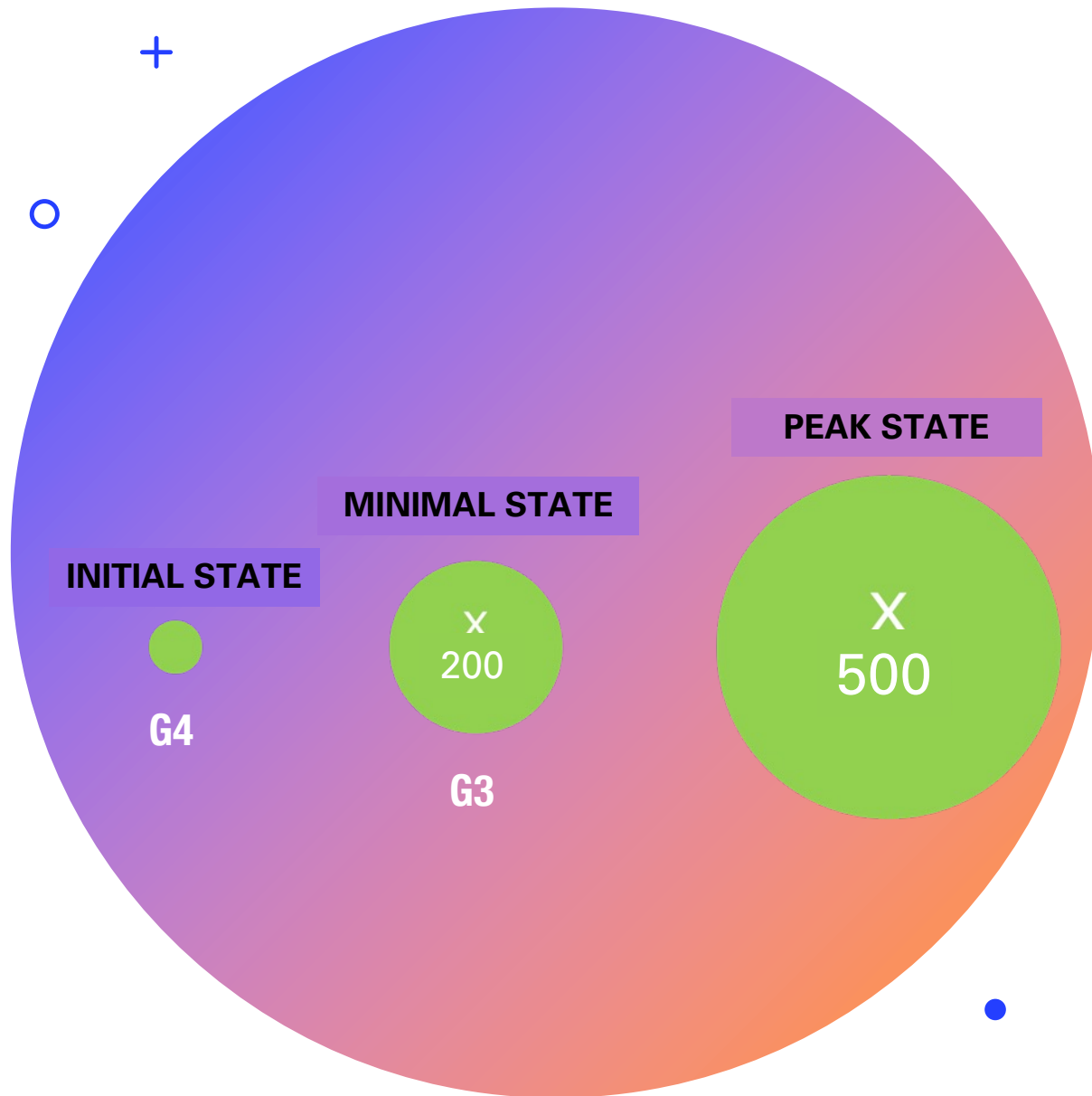


5 TO 7 LONGER

### 3.

# WATER RESERVOIR

Up to 500 times the  
initial volume



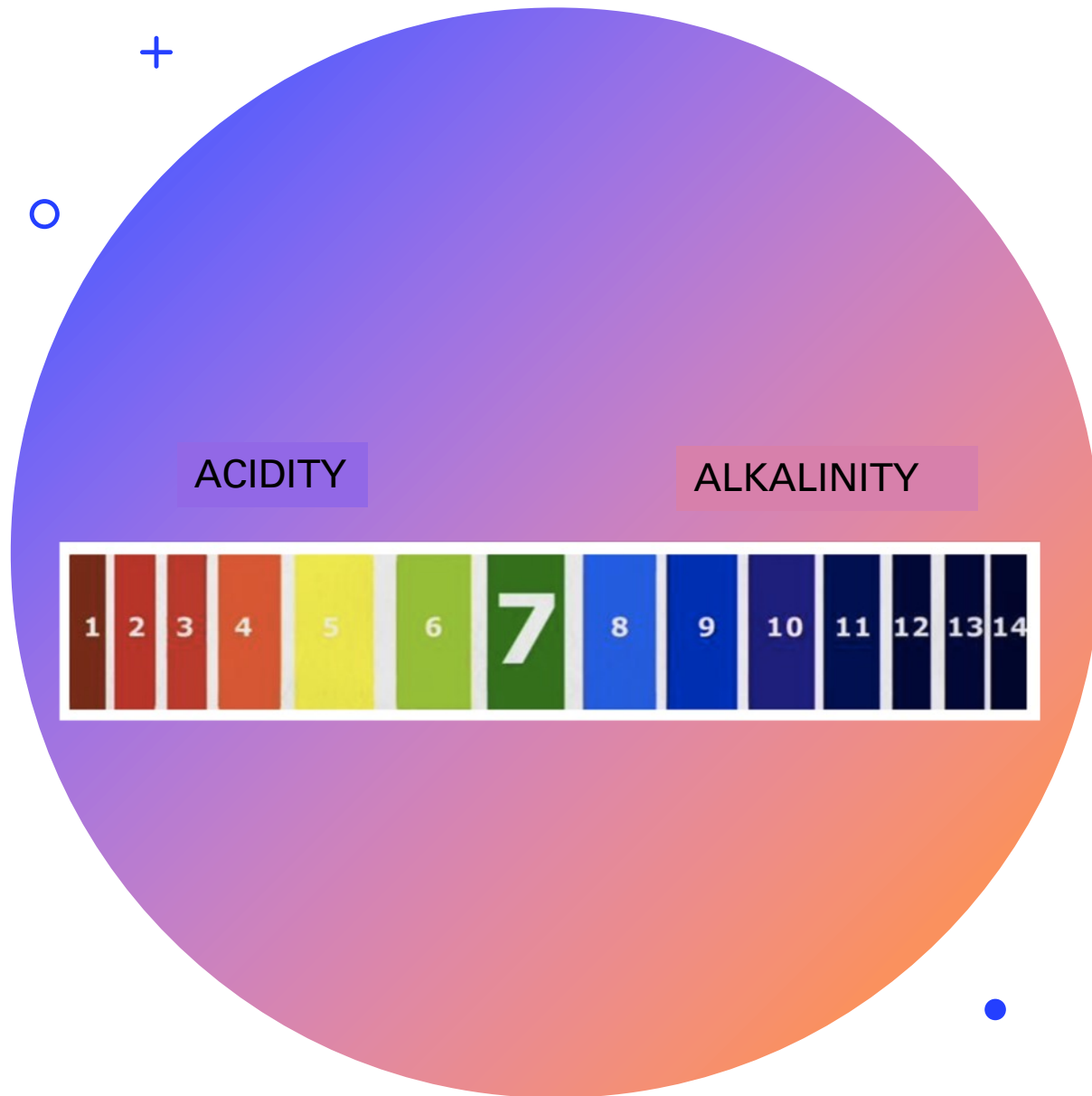
## 4. PREVENTIVE IMMUNIZER

Acts as a vaccine and increases the immune system of plants



## 5. WATER PH REGULATOR

Filtration system or  
water purifier  
Sodium desalinator





# YIELD (kg/ha)

## VENEZUELA



# DOMINICAN REPUBLIC

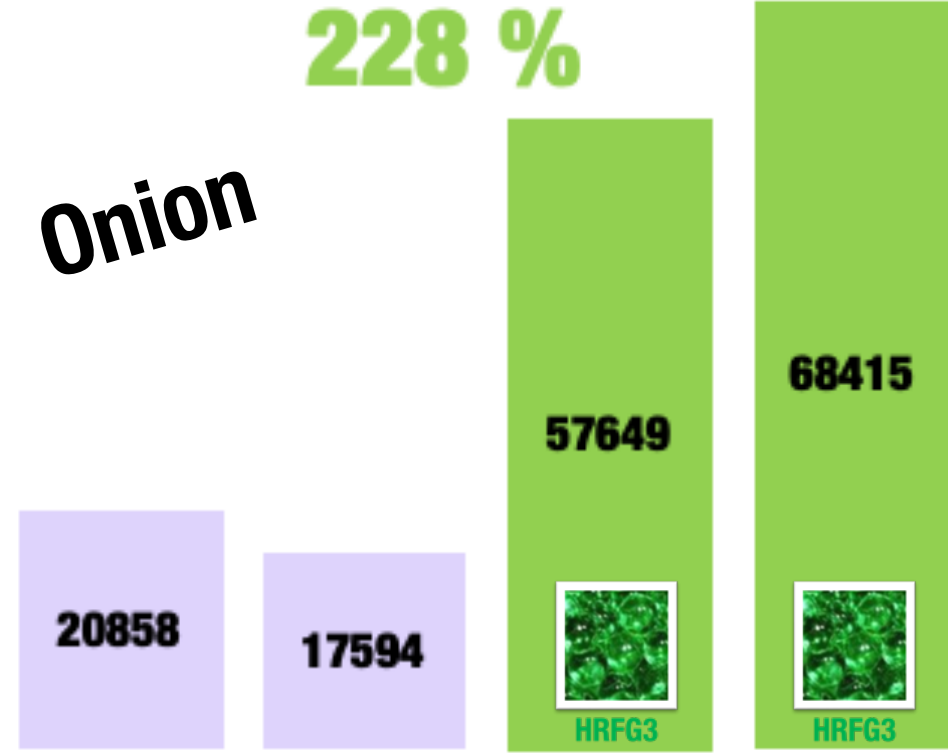
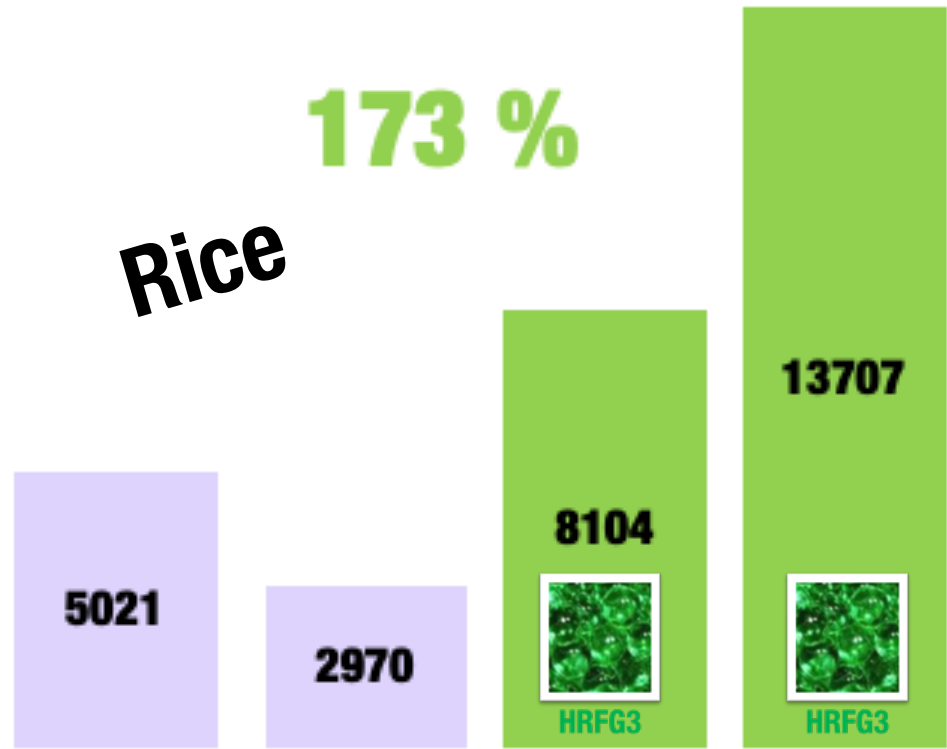


Rice

173 %

Onion

228 %



# YIELD (kg/ha)

## VENEZUELA

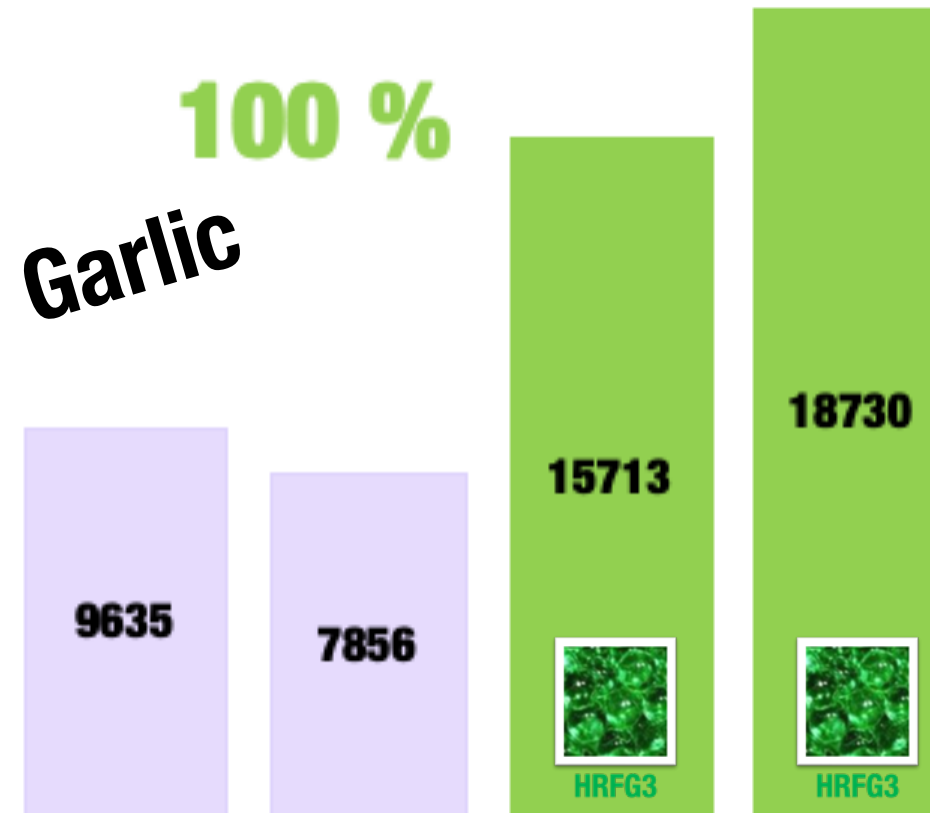
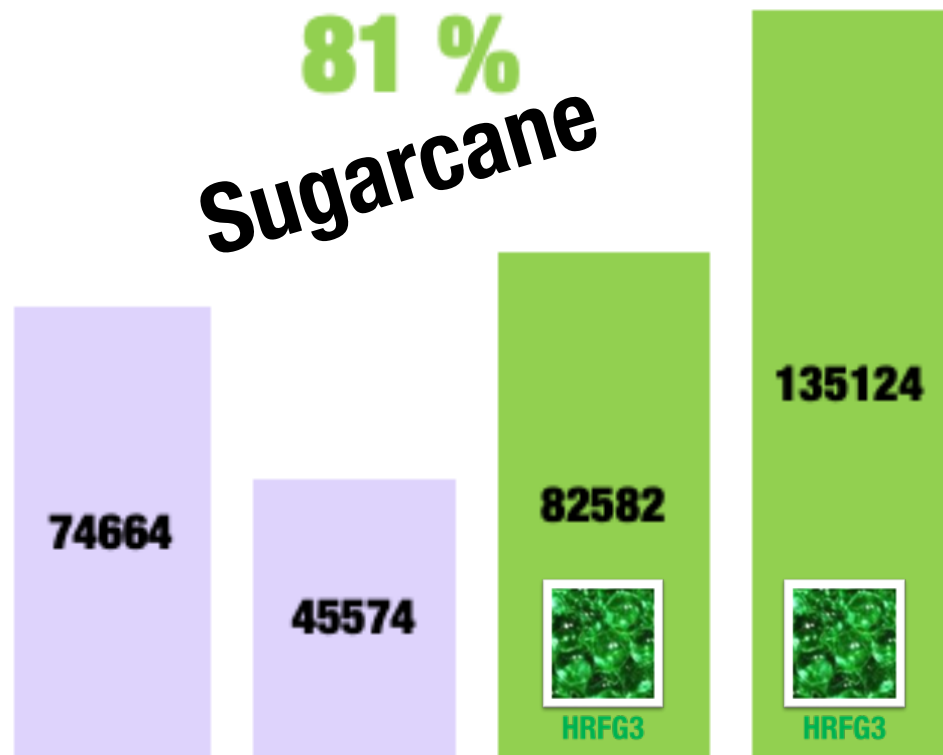


## DOMINICAN REPUBLIC



**81 %**  
**Sugarcane**

**100 %**  
**Garlic**

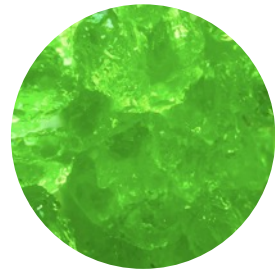


# NPK BP G3

## FERTILIZER HYDRO RETENTIVE NPK BP G3

### ANALYSIS

80% Hydrogel Copolymer  
20% NPK



### COMPOSITION

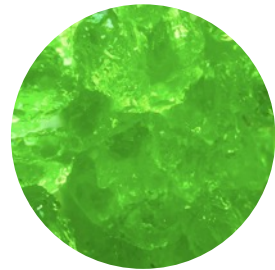
**NPK BP G3** is a soil conditioner composed of biodegradable polymer (Copolymer Acrylamide-potassium acrylate cross-link) subject to a French approval by the Ministry of Agriculture, under number 90 101 33 enriched by NPK.

**NPK BP G3** acting as an eco-friendly slow-release fertilizer to give each plant its needs in the form of nitrogen, phosphorus and potassium and water, without NPK seepage into the soil and groundwater to protect them from conventional NPK pollution.



# UREA BP G3

## FERTILIZER HYDRO RETENTIVE UREA BP G3



### ANALYSIS

80% Hydrogel Copolymer  
20% Urea(N)

### COMPOSITION

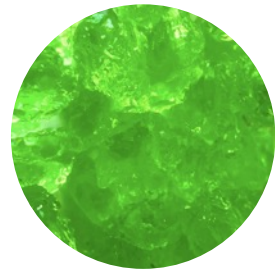
**UREA BP G3** is a soil conditioner composed of biodegradable polymer (Copolymer Acrylamide-potassium acrylate crosslink) subject to a French approval by the Ministry of Agriculture, under number 90 101 33 enriched with a urea-based fertilizer (N).

**UREA BP G3** acting as an eco-friendly slow-release fertilizer to give each plant its need for nitrogen and water, without urea seeping into the soil and groundwater to protect them from conventional urea pollution



# DAP BP G3

## FERTILIZER HYDRO RETENTIVE DAP BP G3



### ANALYSIS

80 % Hydrogel Copolymer

20% fertilizer

- Nitrogen (N)
- Phosphorus (P)

### COMPOSITION

**DAP BP G3** is a soil conditioner composed of biodegradable polymer (Acrylamide-potassium acrylate cross-linked copolymer) subject to a French approval by the Ministry of Agriculture, under number 90 101 33 enriched with a DAP-based fertilizer.

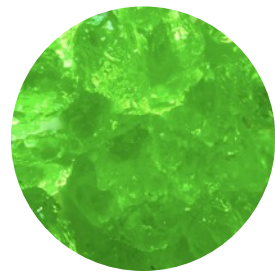
**DAP BP G3** acting as an eco-friendly slow-release fertilizer to give each plant its need for nitrogen, phosphorus and water without urea seeping into the soil and groundwater to protect them from conventional nitrogen and phosphorus pollution.



# INNOVATION

## FERTILIZER HYDRO RETENTIVE NPK / UREA / DAP

NPK BP G3  
UREA BP G3  
DAP BP G3



## HOW IT WORKS?

The live seed germinates and creates roots that will penetrate the capsules of **NPK / UREA / DAP BP G3** to find water and nutrients.

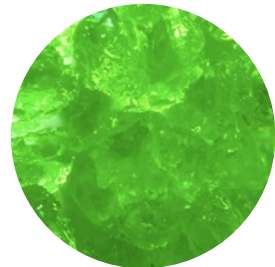
Finally, the young plant will find nutrients to grow and develop a particularly developed root system that will optimize the absorption of all the traditional nutrients applied at a later stage.



# INNOVATION

## FERTILIZER HYDRO RETENTIVE NPK / UREA / DAP

NPK BP G3  
UREA BP G3  
DAP BP G3



## BENEFITS

- Quickly absorbs up to 500 times its volume of water.
- Slowly releases water and nutrients.
- Neutralizes harmful salts
- Ecological fertilization protects the soil against acidity
- 50% water saving for irrigation

All these abilities lead to a sustainable improvement of all soil types with regular yields that increase as has been proven in numerous field tests.

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# SUMMARY OF BENEFITS NPK / UREA / DAP BP G3



## **Agronomic aspects**

- Yields increase
- Shortening of Crop Cycles
- Crop protection against drought
- Increased plant resistance to disease

## **Economics**

- Reduction of watering by up to 50%
- Improved Usual Fertilizer Efficiency
- Reduction of the workforce
- Reduction of land use
- Savings on leaching costs



# SUMMARY OF BENEFITS NPK/UREA/DAP BP G3



## Soil improvement

- Sustainable development of humus
- Dryland development
- Softening of compacted soils

## Regeneration

- Dryland Improvement
- Improvement of salty land
- Brackish water desalination
- Desert Land Improvement
- Ensuring seedling recovery in drylands

# SUMMARY OF BENEFITS NPK/UREA/DAP BP G3



## Environmental protection

- Erosion Control
- Combating soil deterioration
- Fight against acid deterioration
- Combating groundwater pollution and nitrate infiltration
- Reduction of greenhouse gases related to nitrogen fertilizers

- Reduced leaching
- Reduced soil salinity

Large-scale agriculture, desert lands, drylands, drought areas, arboriculture, market gardening, flower cultivation, greenhouses, nurseries, forests, sports fields, golf courses, etc.

# FRANCE

## Créteil

### WHEAT CULTIVATION



Photo taken in the presence of the farmer, the mayor of the village and the president of the municipal council of Créteil.

WHEAT FIELD CULTIVATED WITH A  
FERTILISER HYDRO RETENTIVE BP G3  
JUNE 2022



A farmer sowed two wheat fields located close to each other, one with the use of fertilizer hydro retentive **Barbary Plante® G3** and the other with traditional fertilizers.

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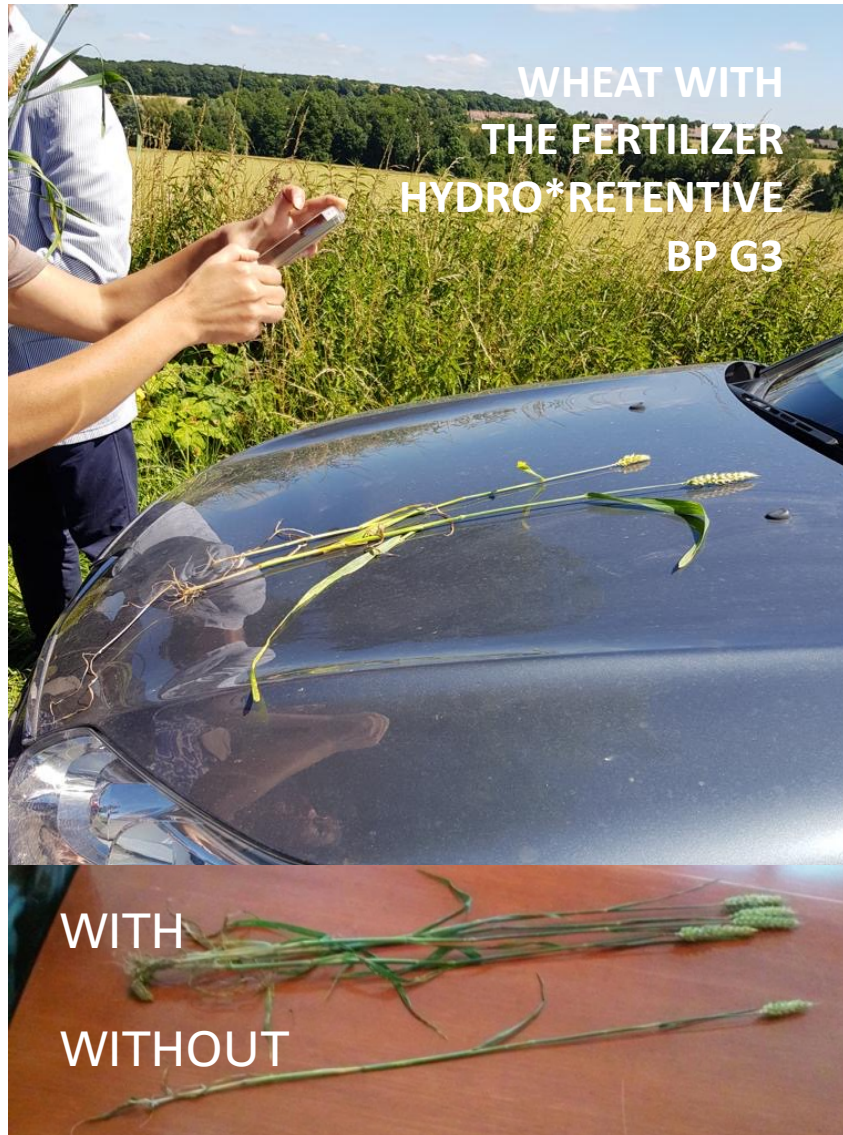
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# FRANCE

## Créteil

### WHEAT

### CULTIVATION



**The result:**  
an irrigation saving  
of 50%, a more  
developed root  
system and larger  
ears with the use of  
**Barbary Plante® G3**

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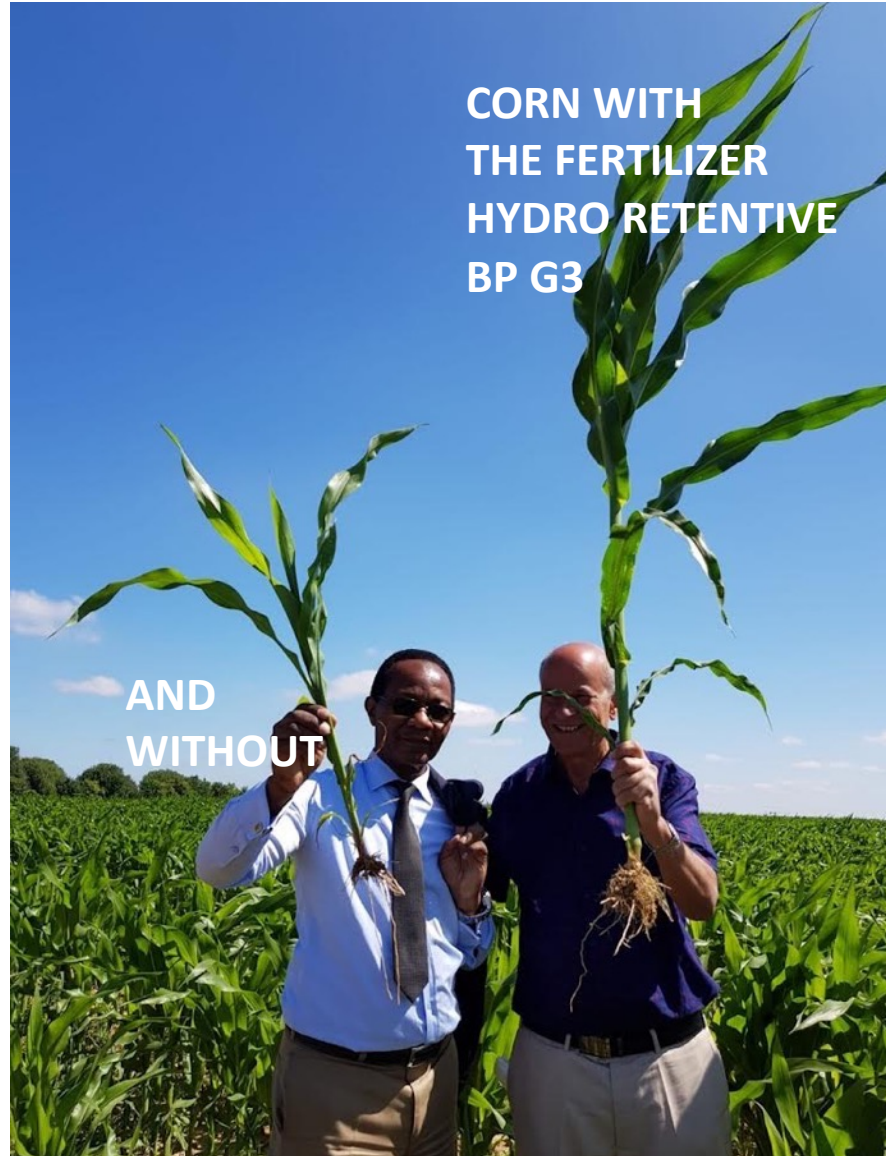
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HYDRO RETENTIVE  
Barbary Plante  
EVOLUTION

# FRANCE

## Créteil

### CORN CULTIVATION

The same farmer sowed two fields of maize located close to each other, one with the use of **Barbary Plante® G3** fertilizer and the other with traditional fertilizers.



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**The result:**  
an irrigation saving of 50%, a more developed root system and larger ears with the use of the **Barbary Plante® G3**

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HYDRO RETENTIVE  
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# GREEN CITY EMIRAT D'ABU DHABI



«Irrigation savings of 50%,  
savings in chemical  
fertilizers, reduction of soil  
salinity and improvement of  
salty soils»

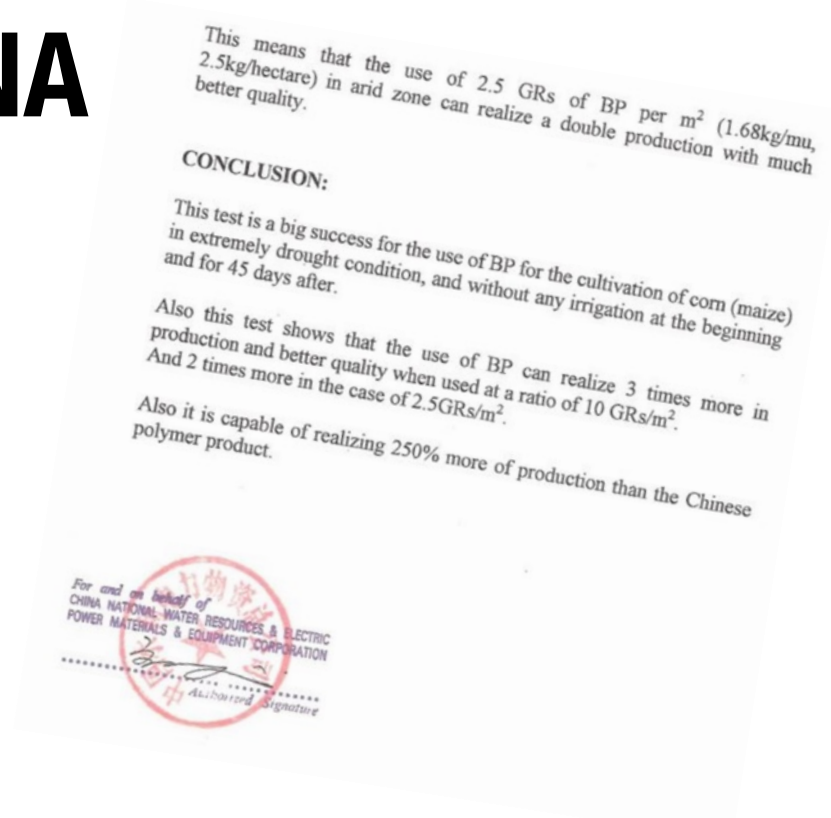
# cultivation of corn CHINA



## « CONCLUSION :

This test is a great success for the use of BP for corn cultivation.

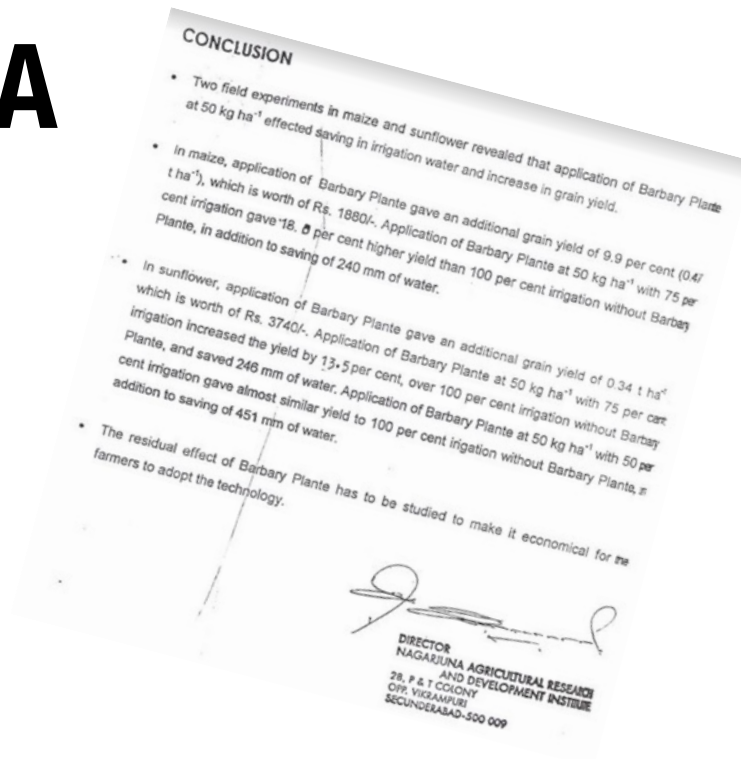
- at a rate of 10 g/m<sup>2</sup> and 50% irrigation, the harvest was multiplied by 3
- at 2.5 g/m<sup>2</sup> and 50% irrigation, the harvest was doubled. »





# Corn and Sunflower

## INDIA

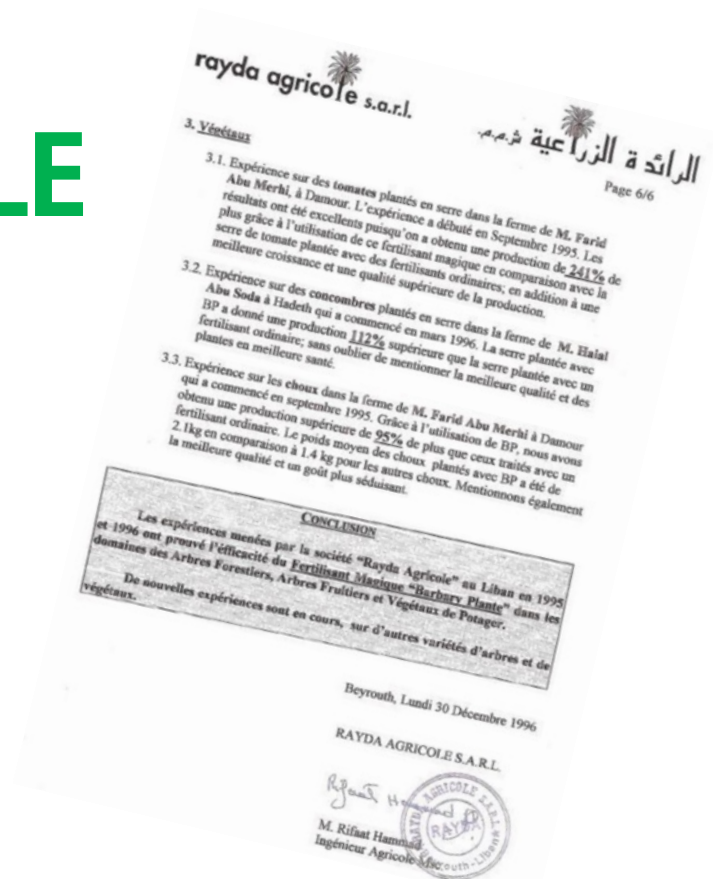


« **Corn:** the use of BP 50 kg/ha with 75% irrigation increased the yield by 18% »

« **Sunflower:** using BP 50 kg/ha with 75% irrigation increased yield by 13.5% »



# Company RAYDA AGRICOLE LIBAN



« CONCLUSION:  
Experiments have proven the  
effectiveness of MAGIQUE  
BP fertilizer... »



# DIRECTORATE FOR AGRICULTURE SENEGAL



«satisfactory results  
obtained »

«contribute to the  
resolution of certain  
difficulties related to  
Senegalese agriculture»



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