



# STRONG POLYMER TRUSTED SOLUTIONS

Application of SOCO® Soil Hydrogel in Agricultural Field

# Introduction

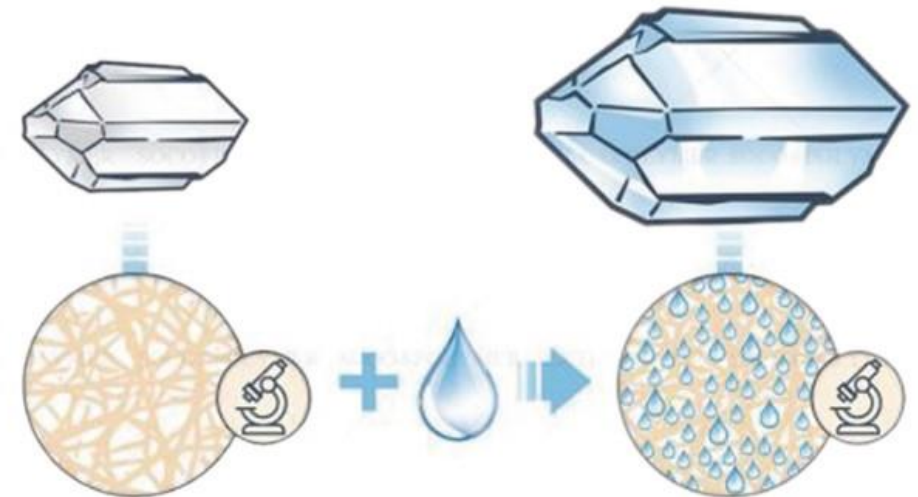


## SOCO® Soil Hydrogel

- One kind of new functional polymer material.
- With good water absorption & water holding capacity.
- It absorbs liquids equivalent to several hundred times of its body mass and transforms into hydrogel quickly.

## How It Works

SOCO® Soil Hydrogel has the proper three dimensional net structure which enhances the ability to combine itself with large quantities of water. When the soil becomes dry it would release more than 80% of its stored moisture back into the soil to ensure that the plant is properly hydrated and has sufficient water.





# Economic benefits



## Why use SOCO<sup>®</sup> Soil Hydrogel in the planting of different crops?



**About 50%**  
Saving in water



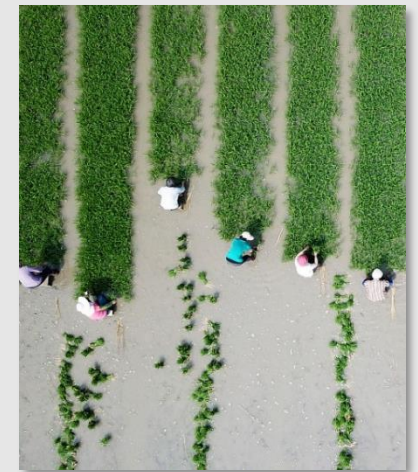
**About 20%**  
Increasing in yield



**About 99%**  
Increasing transplant  
survival rate



**About 65%**  
Improving fertilizer  
utilization rate



**About 50%**  
Saving in labor cost

# Economic benefits



## Why use SOCO® Soil Hydrogel in the planting of different crops?

1. Improve the ability of water & fertilizer conservation in soil.
2. Improve the absorption of water & fertilizer of plants' roots.
3. Reduce the frequency of irrigation & save labor cost.
4. Improve soil condition.



5. Reduce soil erosion and fertilizer leaching.
6. Improves the survival rate of plants.
7. Promotes plants' growth and development.
8. Non-toxic, harmless and biodegradable.



# Applications



**Crops**



**Transplant**



**Fruit Trees**



**Vegetables**



# Applications



**Horticulture**



**Lawn**



**Greening Project**



**Mix with Fertilizer**

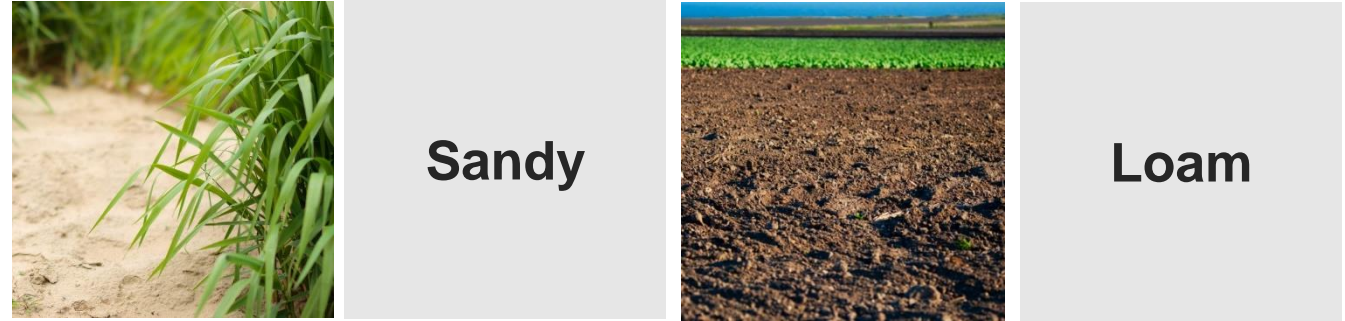


# Product category



## SHK-X Series

- Suitable for loam and sandy.
- Rich in potassium for plant growth.



Before and after water absorption

Type	SHK-X		
Particle Size(mesh)	5-20 ; 20-80 ; 30-100		
Appearance	White Particles	Shelf Life	2 Years
Water retention rate ( pure water ,ml/g)	≥ 350	pH	6.0-7.5
Potassium Content (%)	9-18		

\*The Potassium content was measured by Atomic Absorption Spectroscopy



# Product category



## SDK Series

- Strong hydrogel that can help to increase the permeability of soil.
- Suitable for clay and loam.



**Clay**



**Loam**



Before and after water absorption

Type	SDK		
<b>Particle Size(mesh)</b>	5-10; 10-20; 20-40; 20-80		
<b>Appearance</b>	White Particles	<b>Shelf Life</b>	2 Years
<b>Water retention rate ( pure water ,ml/g)</b>	≥ 400	<b>pH</b>	6.0-7.5
<b>Potassium Content (%)</b>		9-18	

\*The Potassium content was measured by Atomic Absorption Spectroscopy



# Product category

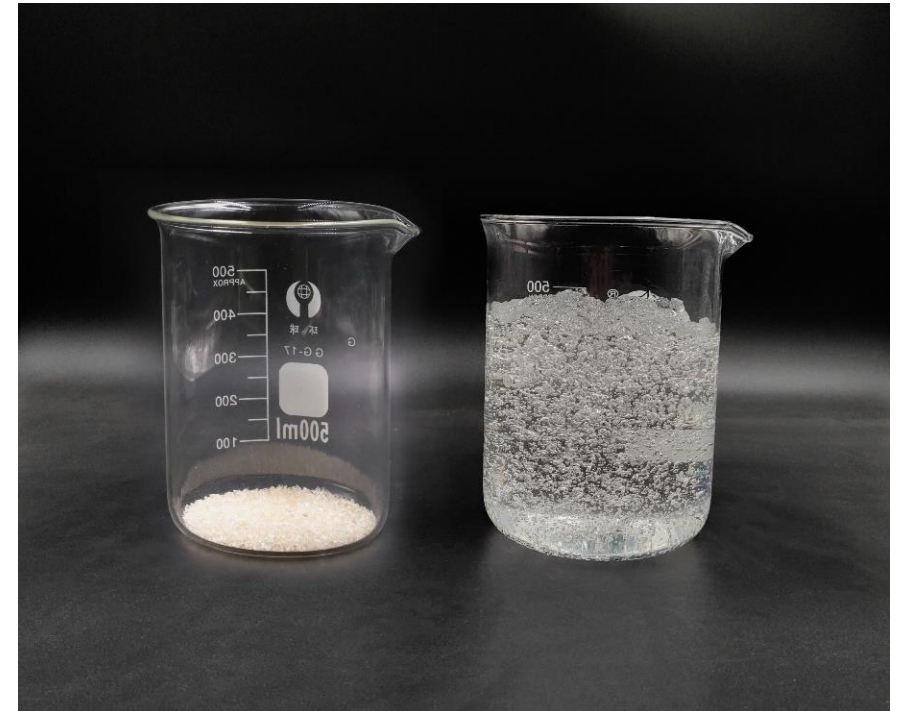


## SAT Series

- Suitable for loam and sandy.
- SAT series possesses a certain salt-alkali resistance, which can provide greater promotion in crop cultivation in saline-alkali soil compared to conventional water-retaining agents.

Type	SAT		
Particle Size(mesh)	5-20; 20-80; 30-100		
Appearance	Light Yellow/ White Particles	Shelf Life	2 Years
Water retention rate ( pure water ,ml/g)	≥ 550	Water retention rate ( 0.5% NaCl, ml/g)	≥ 50
Potassium Content (%)	≥12.5		

\*The Potassium content was measured by Atomic Absorption Spectroscopy



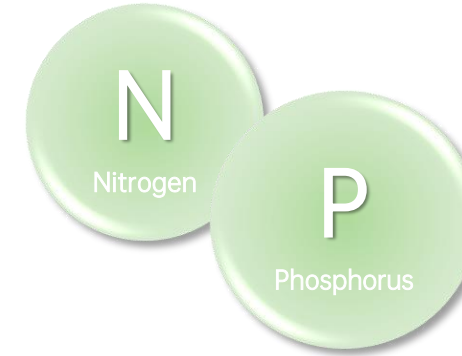
Before and after water absorption

# Product category



## SHK Series

- Rich in nitrogen and phosphorus.
- Suitable for the plants that have special requirements for nitrogen and phosphorus.



Before and after water absorption

Type	SHK		
Particle Size(mesh)	5-20; 20-80		
Appearance	White Particles	Shelf Life	2 Years
Water retention rate ( pure water ,ml/g)	≥ 350	pH	6.0-7.5
Potassium Content (%)	≥17.8		
Nitrogen Content(%)	≥1.68		
Phosphorus(%)	≥0.96		

\*The Potassium content was measured by Atomic Absorption Spectroscopy

# Product category

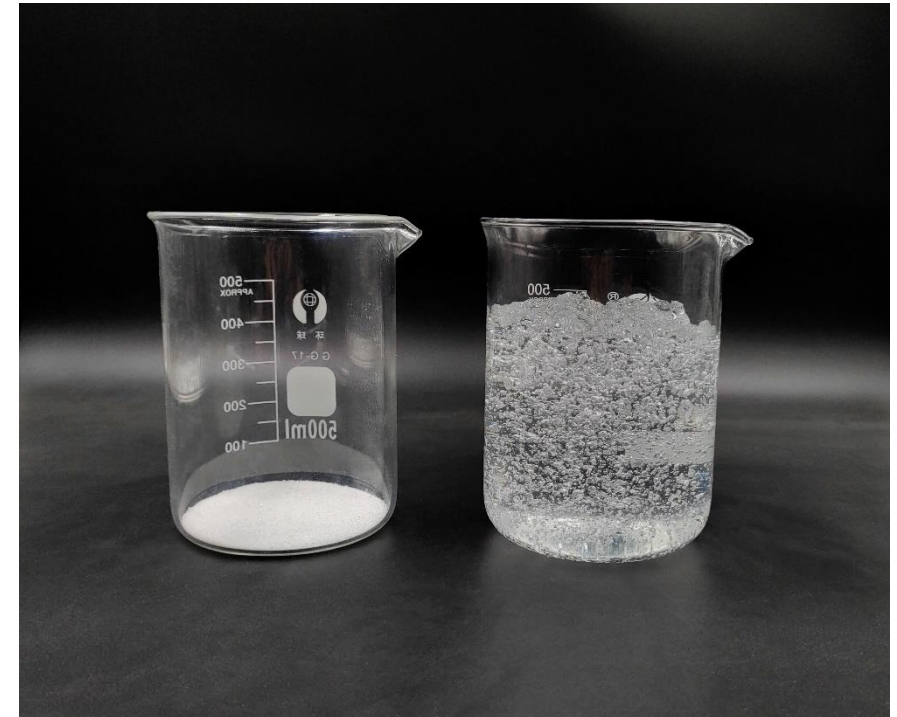


## SHK-F Series

- Faster water absorption.
- Suitable for the regions that often has short-time heavy rainfall.
- Suitable for the plants that don't need too much water during mature period.

<b>Type</b>	<b>SHK-F</b>		
<b>Particle Size(mesh)</b>	5-20 ; 20-80		
<b>Appearance</b>	White Particles	<b>Shelf Life</b>	2 Years
<b>Water retention rate ( pure water ,ml/g)</b>	≥ 350	<b>pH</b>	6.0-7.5
<b>Potassium Content (%)</b>	9-18		

\*The Potassium content was measured by Atomic Absorption Spectroscopy



Before and after water absorption

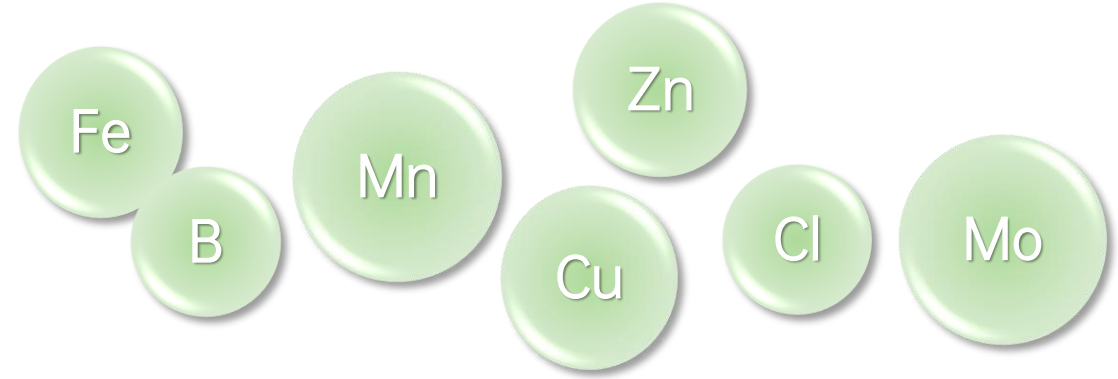


# Product category



## SHMK Series

- Strong hydrogel.
- Rich in trace elements and medium elements.



Before and after water absorption

Type	SHMK		
Particle Size(mesh)	8-20; 20-80; 30-100		
Appearance	brown particle or powder (based on the particle size)		
Shelf Life	2 Years		
Water retention rate ( pure water ,ml/g)	100-700	pH	6.0-7.5

## SHK-HN Series (Sodium Polyacrylate for Agriculture)

- Faster water absorption with lower cost.

<b>Type</b>	SHK-NH		
<b>Particle Size(mesh)</b>	5-20; 10-30; 20-80		
<b>Appearance</b>	White Particles	<b>Shelf Life</b>	2 Years
<b>Water retention rate ( pure water ,ml/g)</b>	≥ 500	<b>pH</b>	6.0-7.5



# Test & Feedback



## Feedback with applying SOCO® Soil Hydrogel



Without SOCO® Soil Hydrogel



With SOCO® Soil Hydrogel

Potato planting in USA



Without SOCO® Soil Hydrogel



With SOCO® Soil Hydrogel

Oats planting in Argentina



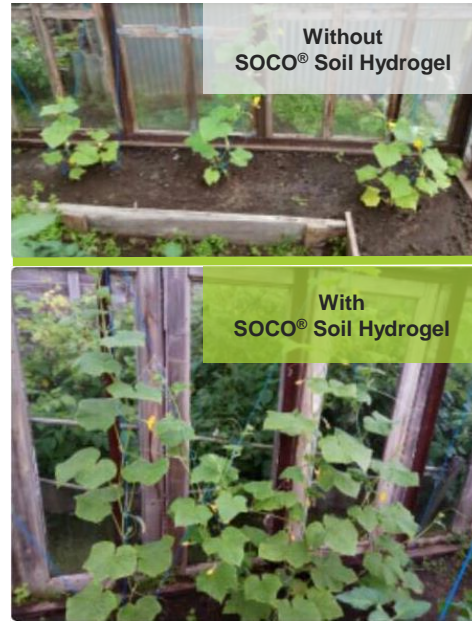
# Test & Feedback



## Feedback with applying SOCO® Soil Hydrogel



Macadamia nuts  
in South Africa

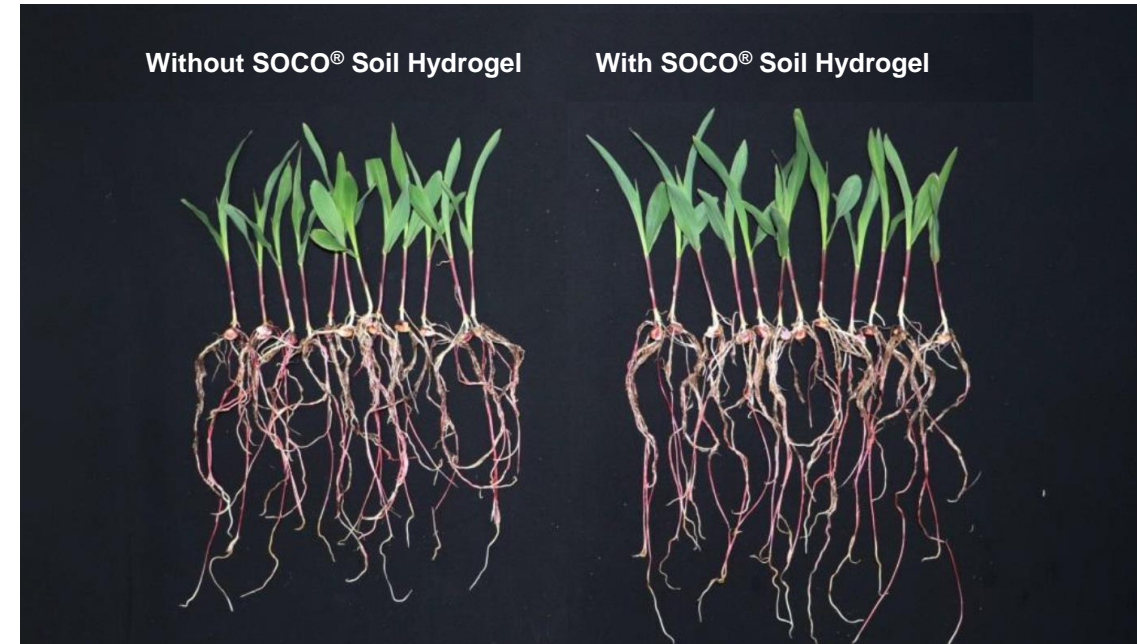
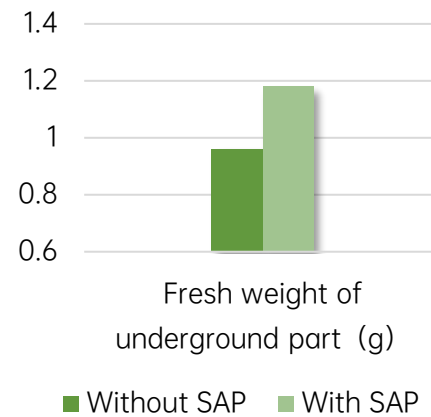
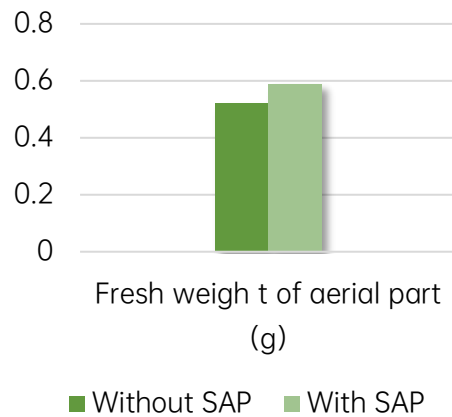
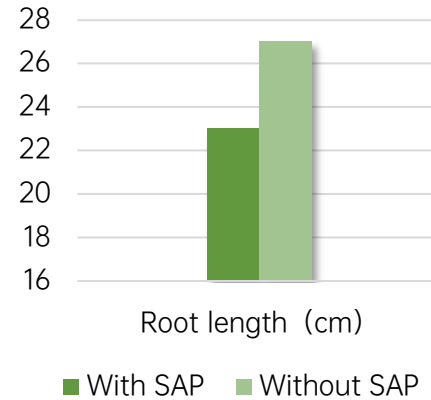
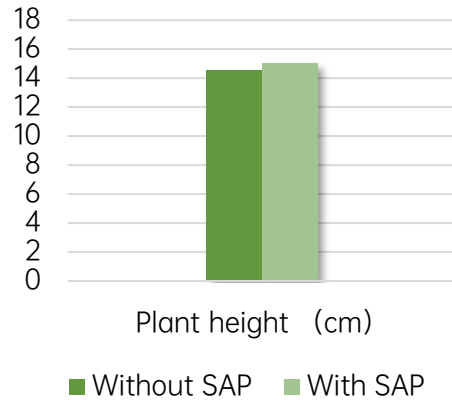


Cucumber  
in Russia



Barley  
in Kuwait

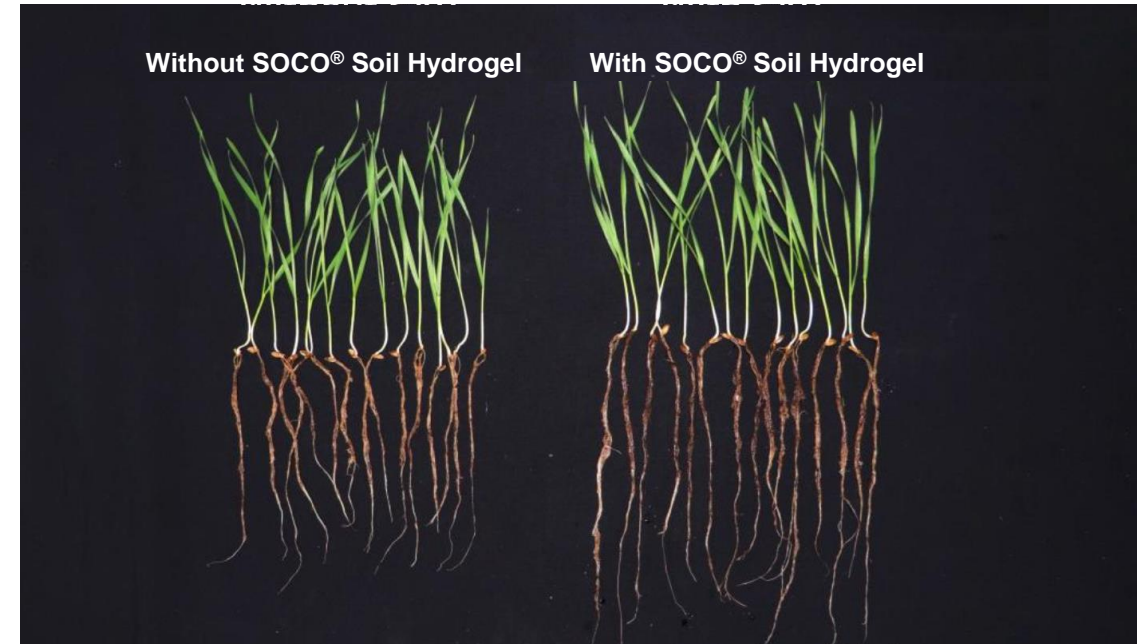
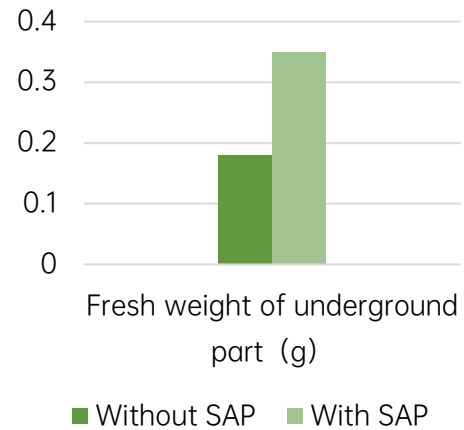
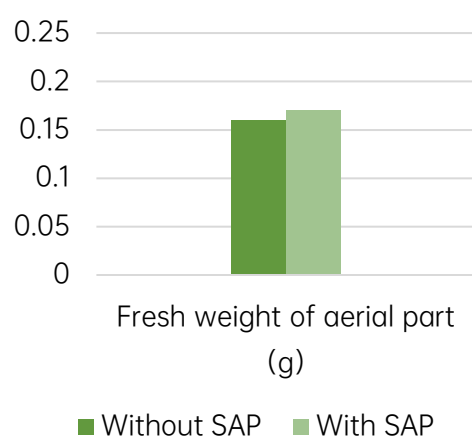
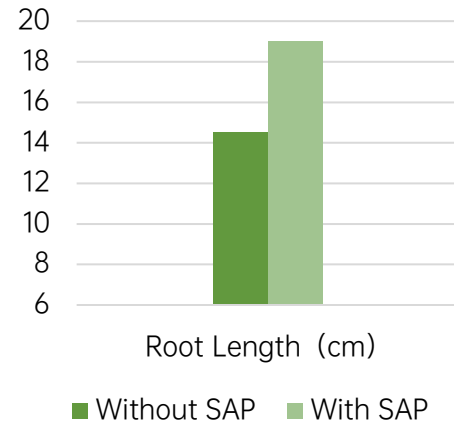
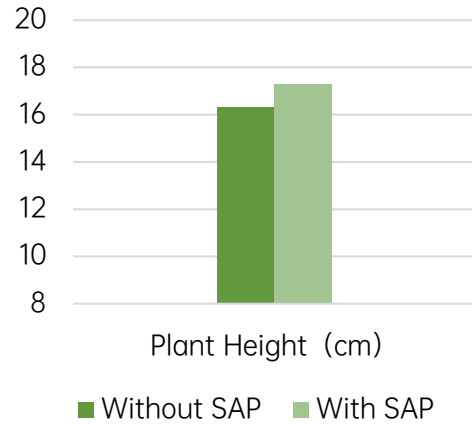
## Effects of SOCO<sup>®</sup> Soil Hydrogel on maize growth



### Result

SOCO<sup>®</sup> Soil Hydrogel can promote the growth of maize seedlings. The fresh weight of underground part **increased by 23.96%**.

## Effects of SOCO<sup>®</sup> Soil Hydrogel on wheat growth



### Result

SOCO<sup>®</sup> Soil Hydrogel can promote the growth of wheat seedlings. The fresh weight of underground part **increased by 88.89%**.



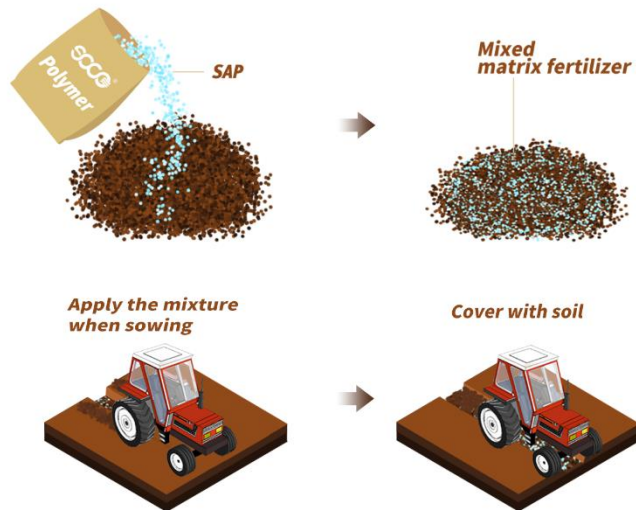
# Usage & Dosage



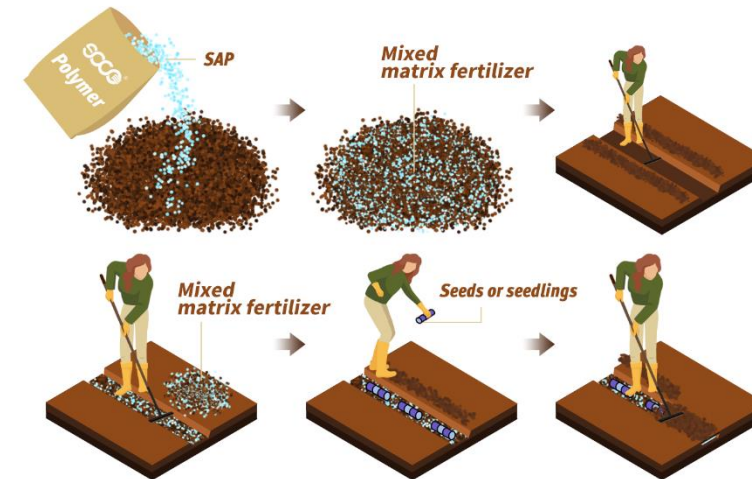
## Dry Application

In rainy and wet season or regions, please use dry powder directly(recommend to mix powder with fertilizer).

### Dry Application (Machines)



### Dry Application(Manual)

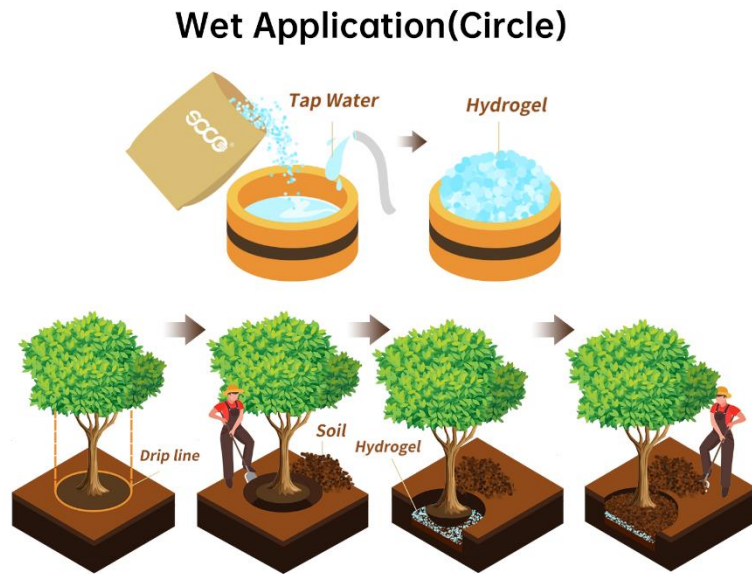


# Usage & Dosage



## Wet Application

In drought and rainless season or region, please apply our product after absorbing water into a hydrogel.





# Usage & Dosage



- **Crops**



- **Horticulture, fruit and vegetable seedlings in greenhouses, etc.**

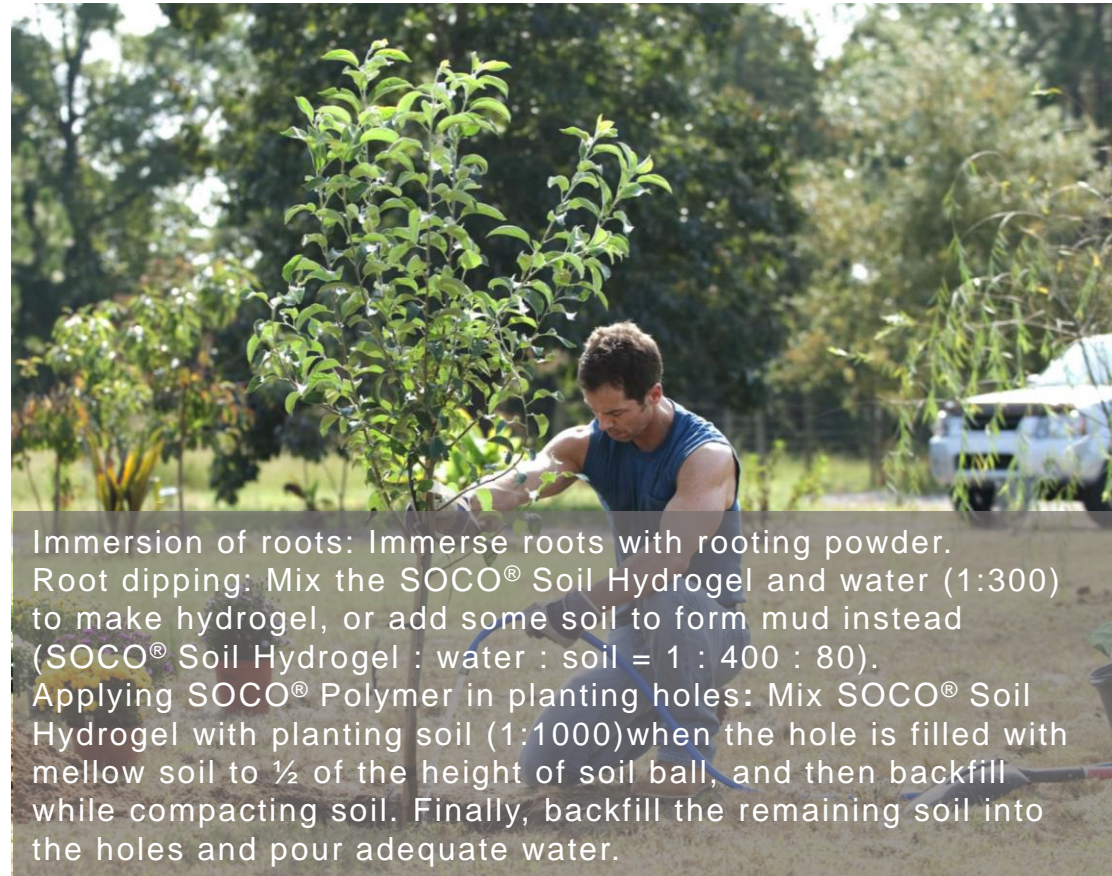




# Usage & Dosage



- **Transplanting of trees**



- **Lawns**





# Usage & Dosage



- Fruit trees

- More...



LEARN  
MORE

For more details about the usage and dosage of products, please consult our technicians.

# Packing Specification



Our regular package is 25kg/Kraft bag ,we also support customization package and we have done many small packages for our customers like 5kg ,1kg ,500g etc.



Small bags



Kraft bags(20kg/25kg)



Tons' bags



Customization



# Warning



## Storage

- Ensure that bags are completely sealed and stored in a well-ventilated indoor location, because the products are hygroscopic.



## Personal protection & Handling

- Wear a dust-protecting mask and safety goggles if dusting is excessive in an operating environment.
- Clean up immediately to avoid accidents because it can become slippery when wet.



## First Aid Measures

- **EYE CONTACT:** Contact with eyes may result in physical irritation. Rinse with plenty of water for 15 minutes. Get medical attention.
- **INHALATION:** Go immediately to an area with fresh and clean air. Get medical attention.
- **INGESTION:** Rinse mouth thoroughly. Get medical attention immediately.
- **SKIN CONTACT:** Flush skin with a large amount of water or soap water.



## Disposal

- Dispose of in accordance with local regulations.



## Contact Us

More details  
we have specialist to answer you.

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Website: [www.socopolymer.com](http://www.socopolymer.com)





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