

UPuper application

■ Vegetables



■ Flowers



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Precise cultivation Green safety

SHANGHAI ABM ROCK WOOL CO.,LTD
ADD: 501,Yuwell Tower, 663 Shenhong Road, Shanghai, China
Tel: +86-21-39291299
Fax: +86-21-59753024
www.cnabm.com
E-mail: info@cnabm.com

SHANGHAI ABM ROCK DAFENG WOOL CO., LTD.
ADD: No.99, West Zhangjian Road, Dafeng District, Jiangsu, China
Tel: +86-515-83369988
Fax: +86-515-83369988

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Rock Dafeng Wool Co., Ltd.

SHANGHAI ABM ROCK WOOL DAFENG CO.,LTD

Soiless culture

Soiless culture is the technology that use substrate such as cultivation rock wool, peat, perlite, vermiculite and so on to cultivate the plants instead of natural soil.

Soiless culture can not only supply the factors like nutrient, water and oxygen , but also making the plants growing better by the precise control, to get higher output and better quality.

Soiless culture is classified into hydroponic, aeroponic and substrate cultivation according to the use of material. Rock wool cultivation is a kind of substrate cultivation.

UPuper cultivation rock wool

UPuper cultivation rock wool is a soiless culture substrate made from natural rocks through high temperature melting, fiberiz–ing and curing. With the 95% of air contents , good porosity, easy to plants growth, it is the optimal choice of soiless culture, suitable for modern agricultural large–scale professional planting, boost the healthy development of smart agriculture.

Characteristic of UPuper

- Broad applicability:** UPuper is not restricted by territory and space, can be applied in areas where soil is seriously polluted or the soil can not be cultivated. It is suitable for planting different crops.
- Strong anti–adversity:** UPuper is more suitable for severe environment, even the extreme high temperature weather or short–term irrigation anomalies. The special structures can still keep the crops growing well.
- Avoid continuous cropping damage:** UPuper has been processed at high temperature of 1500 ℃ without any harmful organism,which can effectively avoid the damage of continuous cropping of soil.
- Structural stability:** UPuper is a kind of inert substrate with stable structure, support the normal growth of crops on the ground and promote the growth of underground roots.
- Cost saving:** UPuper can improve the utilization rate of water and fertilizer, save time, save labor, can reduce the supporting load of modern agricultural facilities.
- Improve economic performance:** UPuper can improve the crop production and quality, shorten the growth cycle, to increase the economic benefits.
- Easy to control:** UPuper arrived earlier to market make the large–scale and factory farming simpler, more professional and more accurate to increase the planting efficiency.
- Environment friendly:** UPuper use the natural raw materials, no pollution, easy to recycle.

Chemical performance advantages

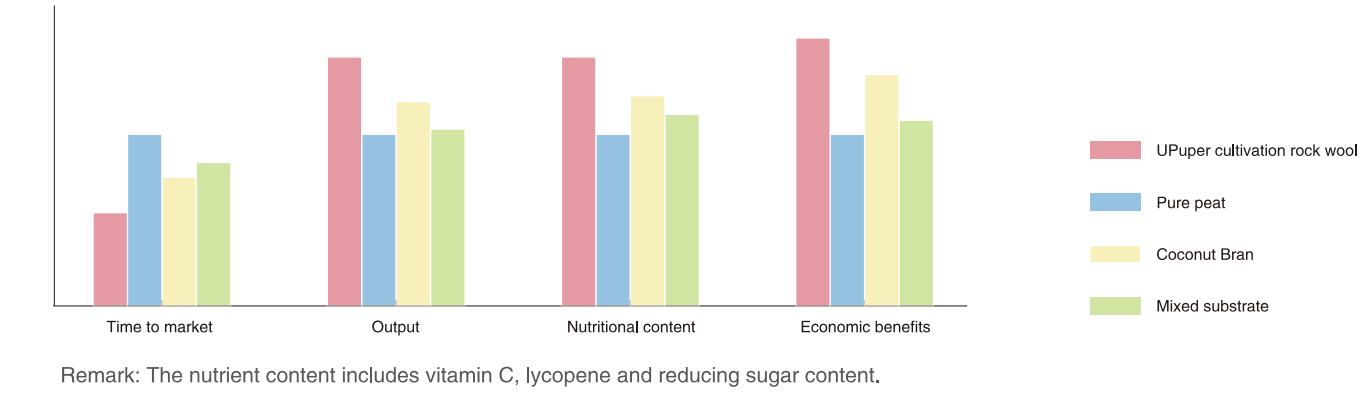
Item	Soil	Coconut Bran	Peat	Perlite	Vermiculite	UPuper Rock Wool
Density	Heavy	Med	Med	Light	Light	Light
Water & Energy Saving	Low	Med	Med	Low	Low	High
Water absorbing & retaining	Weak	Med	Med	Weak	Med	Extremely Strong
structural stability	Bad	Med	Med	Bad	Bad	Good
GWR(gas water ratio)	Low	Med	Med	High	Low	Med
Heavy metal content	High	Low	Low	Low	Low	Extremely Low
Pathogen content	High	Low	Low	Low	Low	No
Recycle Rate	---	Low	Low	Low	Low	High
Control Precision	Low	Med	Med	Med	Med	High

Remark: GWR(gas water ratio)–The ratio of the air permeability to the water–holding pores.
Suitable GWR is better for the growth of the crops.



Advantage of UPuper

As shown in the figure, UPuper is better for the growth and development of tomato, early harvest time, make the tomato release early. Under same management, UPuper cultivation rock wool has the best production, quality and best economic benefit.



Products series of UPuper

UPuper cultivation rock wool has three series, there are Cultivation Plug(CP), Cultivation Block(CB), Cultivation Strip (CS)

series can meet the different stages of crops.

UPuper Cultivation Plug (CP)

UPuper Cultivation Plug is used for plant generating stage. The cultivation plug has the advantage of large porosity and strong water retention which is good for seedling roots growth. One CP for one seed can avoid the damage of root when transport–ing seedlings.



Column seedling plug



Block seedling plug

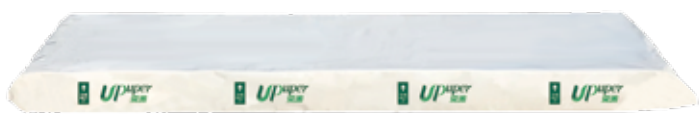
UPuper Cultivation Block (CB)

UPuper Cultivation Block is used for the stage of plant seedling, the Cultivation block structure is stable and strong, the gas water ratio is suitable, and the water fertilizer is distributed evenly, so it provide guarantee for the rapid and uniform growth of the root system.



UPuper Cultivation Strip (CS)

UPuper Cultivation Strip is used for the stage of plant growth , its good water absorption and retention provide a nutrient slow release space for crop growth. It can also work well even in strong light condition. In the mean time, it can meet the growing demand of different plants and prevents algae and pathogens from breeding.



The Parameters of UPuper

Standard specification

Type	Thickness (mm)	Size (mm)
CP	27、37	Dia: 20、35
CP	35、40	25 × 25 , 36 × 36
CB	50 65 100 150 200	50 × 50 75 × 75 100 × 100 150 × 150 200 × 200
CS	75	1000 × 200

Remark: Other size maybe available on request

Technical data

Properties	UPuper Rock Wool	Unit
Water absorption	≥800	%
PH	7–8	---

Guideline

1

Completely immersion the CP with nutrient solution, adjust the EC value to 1.5–2.0ms/cm, pH value to around 5.5.

2

Put the seed to CP and cover it with small vermiculite.

3

Control the indoor temperature, humidity, and light, make the seeds seedling evenly and consistently.

4

When the seedling roots grow to the bottom of the CP, transplant the CP into the CB which has been completely immersed with nutrient solution.

5

Control the space of crops to have strong seedlings.

6

When the roots grow to the bottom of CB, transplant the CB to CS.

7

Make a hole at the top of the CS, inject the nutrient solution of pH 5.5, immerse for 24 hours, and drain at the lower end of the CS.

8

Transplant the CB to CS, control the growing condition preciously, prevent the pests and diseases.