



# Arpha Gold

--Arbuscular mycorrhiza soil  
conditioner



Chico Crop Science Co., Ltd.



## Chico Crop Science Co., Ltd.

### Company Profile:

Chico Crop Science Co., Ltd. is a high agrotech company specialized in providing comprehensive nutrition for crops, seed treatment and systematic prevention and control of crop diseases, pests and weeds.

## Our company





## Product introduction of Arpha Gold

● **Arpha Gold** is a kind of microbial fertilizer, which is especially suitable for plant nutrition and phosphate nutrition of crops.

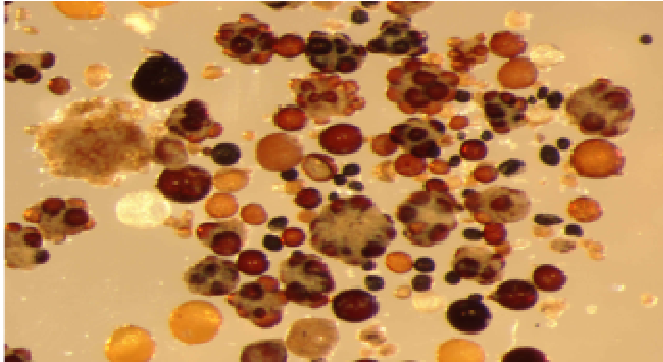
● **Arpha Gold** is a unique microbial fungus used to absorb and transfer nutrients to the root system. It can combine with the root system more quickly in the nursery to make the plant grow more evenly and the roots are healthier.

### Advantage of Arpha Gold

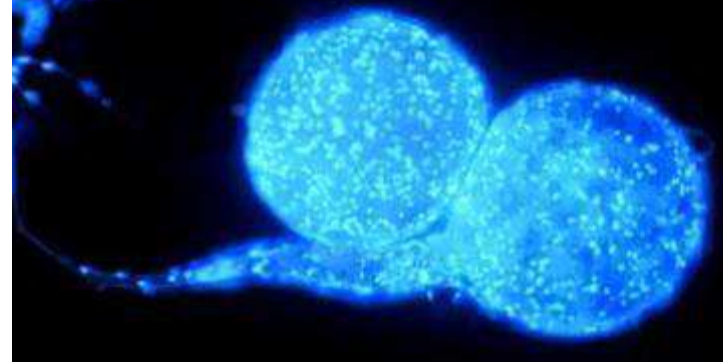
- a. Save up to 50% chemical or organic fertilizer .
- b. The drought resistance is enhanced, the salt water tolerance is enhanced.
- c. Resistance to nematodes.
- d. Biomass increases 10-50% and root volume increases 100 times.
- e. Prevention on soil compaction is beneficial to soil improvement.
- f. Increasing yield.



## Arpha Gold: a kind of special beneficial soil fungus



Need living roots to reproduce

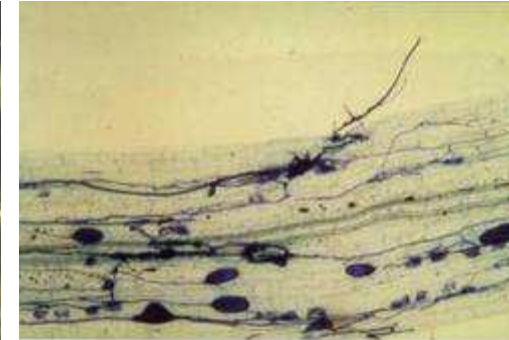
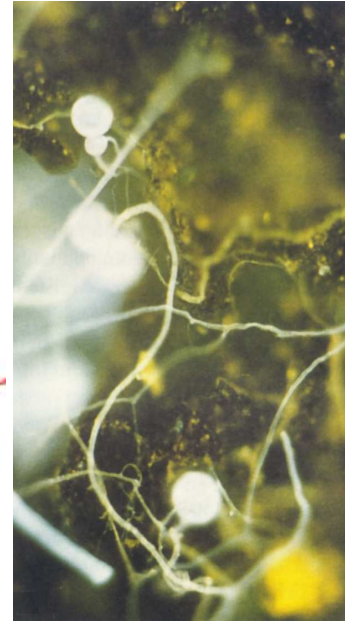
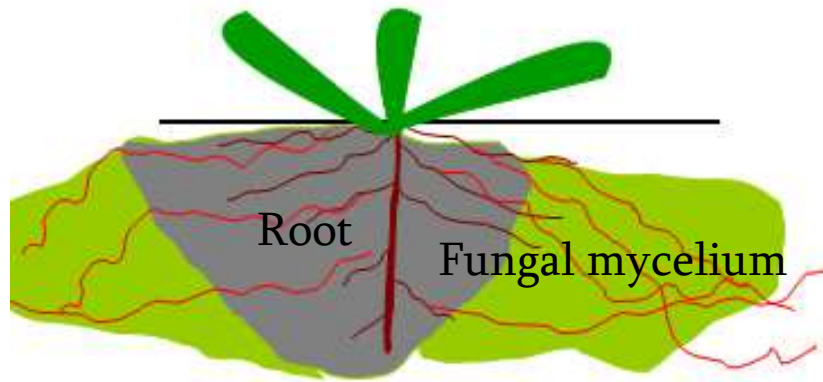


Multinucleate microorganism

- **Arpha Gold** are found in all natural ecosystems.
- In many microbial soils, the primary mycorrhiza has disappeared.
- All important agricultural crops require mycorrhiza: grains, corn, potatoes, beans, sunflowers, berries, flowers, herbaceous plant, pastures, fruit trees.
- The cruciferae (such as rapeseed, cabbage) and Chenopodiaceae (such as beet leaves) have not mycorrhizae. **Arpha Gold** are absent in some forest trees formed ectomycorrhizal (such as pine forests, eucalyptus forests).



## Mode of action: Symbiosis of soil fungi with plants (root)



The contact volume of Fungal mycelium and the soil is 100 times than the mere root with soil.

Fungal mycelium searches for nutrients by means of increasing the contact volume of roots.

- Fungus absorb nutrients from the soil and transport them to the roots (such as phosphorus, zinc, copper, sulfur, Boron, Molybdenum, nitrogen, magnesium, and micronutrient).
- Plants provide the fungus with the products of photosynthesis ( It is absorbed by fungus in the form of carbohydrates and sugars).



## Nutrient absorption capacity of Arpha Gold



### Conclusion:

- Mycorrhizal fungi had higher phosphorus absorption efficiency.
- Plant growth depend on mycorrhizal fungi.



## Technical instructions for use of Arpha Gold

Crops	Application time	Dosages	Method of application	Application Frequency	Points to note
Rice	In dry nursery box(48 cm long × 25 cm wide × 21 cm high) , or in dry nursery bed before sowing.	0.2 to 0.3L/ seedbox or 1-2 L / m <sup>2</sup> of seedbed.	Sprinkle on the soil surface at first,then cover with soil about a depth of 3 cm.	Apply once before sowing pre-germinated rice seeds.	Do not irrigate the soil surface before more than 14 days after sowing; If other fertilizer is used, only use 50% of the normal amount during this period. Do not use preemergence herbicides.



## Technical instructions for use of Arpha Gold

Crops	Application time	Dosages	Method of application	Application Frequency	Points to note
Corn	Sprinkle it directly to the seed when sowing a seed (with the help of hands or a machine) .	105-300L/ha.	Sprinkle directly to seeds or to furrows in which seeds are placed.	Apply once during planting.	This product can be combined with chemical granular fertilizer base on 1:1 ratio. Do not use pre-emergence herbicides.





## Technical instructions for use of Arpha Gold

Crops	Application time	Dosages	Method of application	Application Frequency	Points to note
Apples; citrus; tea; fruit trees in a nursery.	Plant in a nursery after pre-or in vitro propagation.	5 mL / planting hole.	Punch a hole in the middle of the basin at first, smear this product on the germinated roots ,and then place it in the hole covering with soil.	Apply once during planting.	Irrigate immediately after planting to ensure the roots contact with the soil; If other fertilizer is used, only use 50 % of the normal amount.



## Technical instructions for use of Arpha Gold

Crops	Application time	Dosages	Method of application	Application Frequency	Points to note
Tea; citrus; apples; fruit trees (transplanted from nursery to field site).	When transplanted from nursery to field site.	Depending on the size of the ball, applied 20-100 ml of this product to the planting hole.	Sprinkle this product around the planting hole and root ball.	Apply once during transplanting from nursery to field site.	Irrigate immediately after planting to ensure the roots contact with the soil; If other fertilizer is used, only use 50 % of the normal amount.



## Technical instructions for use of Arpha Gold

Crops	Application time	Dosages	Method of application	Application Frequency	Points to note
Established trees (fruit trees).	After the fall harvest.	1 L / Tree.	Apply 1 liter of this product to a furrow after the fall harvest.	Apply every two years, starting two years after planting to the field.	This product can be combined with low-nitrogen fertilizers.



## Technical instructions for use of Arpha Gold

Crops	Application time	Dosages	Method of application	Application Frequency	Points to note
Transplanting large trees (such as ornamental plants).	In the process of transplanting a tree to its final location.	500 mL / root ball.	Apply this product around the planting hole and the root ball after transplantation.	During the transplantation.	Apply this product around the root ball at first, and then irrigate immediately.



## Technical instructions for use of Arpha Gold

Crops	Application time	Dosages	Method of application	Application Frequency	Points to note
Tomatoes, Cucumbers, Bell Peppers.	When grown in a greenhouse.	5-10 ml / planting hole.	Apply this product in a planting hole.	Apply this product once after planting in the greenhouse.	Irrigate immediately after planting to ensure the roots contact with the soil; If other fertilizer is used, only use 50 % of the normal amount.



## Technical instructions for use of Arpha Gold

Crops	Application time	Dosages	Method of application	Application Frequency	Points to note
Germinated vegetables in a seed tray (28 or 56 piece of compartments).	Before sowing on the substrate.	10% of this product.	10% of this product mix with matrix.	Before sowing.	Pour the mixture into a tray and place the seeds in each compartment.

**Note 1:** When using this product, you only need to use 50-70% of the ordinary fertilizer, because it replaces the chemical fertilizer; Plant protection products can be used, but preemergence herbicides are not used.

**Note 2:** It is necessary to irrigate immediately after planting to ensure the roots contact with this product and soil.



## Application case of Arpha Gold



The first step: Drill holes and apply proper amount of this product.



The second step :Depending on the size of the plant, added a certain amount of this product around the hole.



The third step:Cover with soil and irrigate.

**Arpha Gold** can be used in a variety of ways: alone, as shown above, or in combination with organic fertilizers;It can be used in different fields( such as nurseries, vegetables, fruit trees, etc. ).



## Application case of Arpha Gold



Granular product.



Drill Hole.



Add 5-10 mL of this product.

**Arpha Gold** can be directly used in nursery and field transplanting.





## Application case of Arpha Gold



1 Part of this product,  
10 parts of Matrix.



Mixing.



Fill a tray or flowerpot  
with seeds.

**Arpha Gold** can be used diluted with matrix base on 1:10 to 1:20 ratio, it also diluted with organic fertilizer base on 1:50 to 1:100 ratio.



## Application case of Arpha Gold

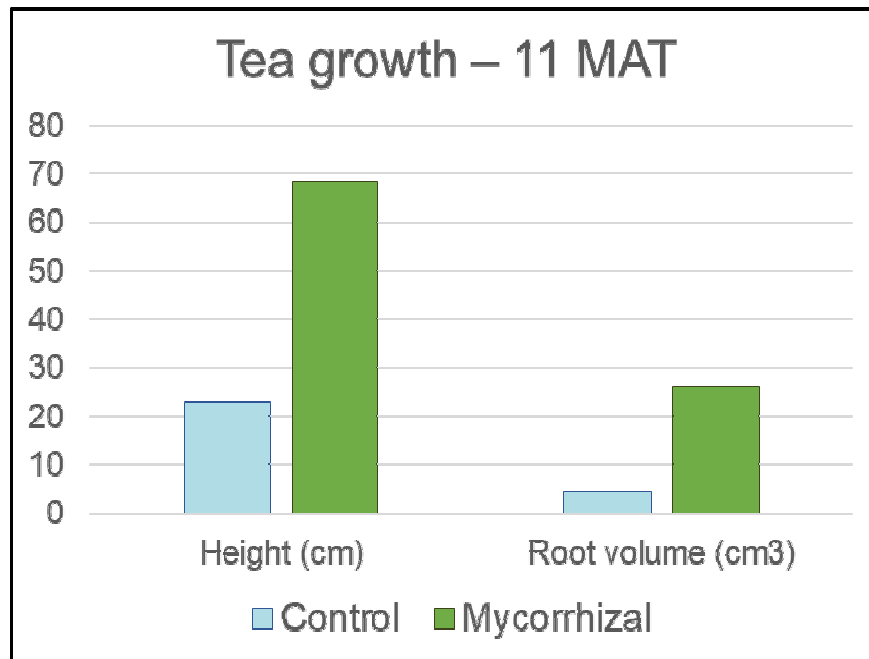
### Application in Citrus plant





# Application case of Arpha Gold

## Application in Tea

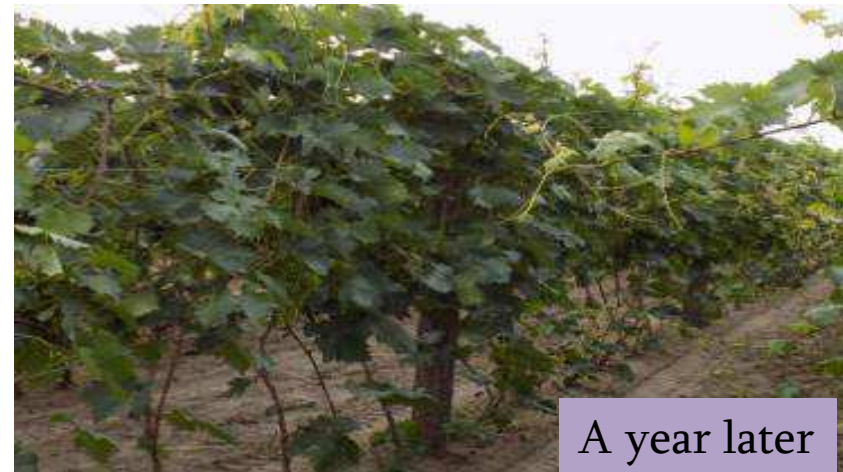




# Application case of Arpha Gold

## Application in Grapes

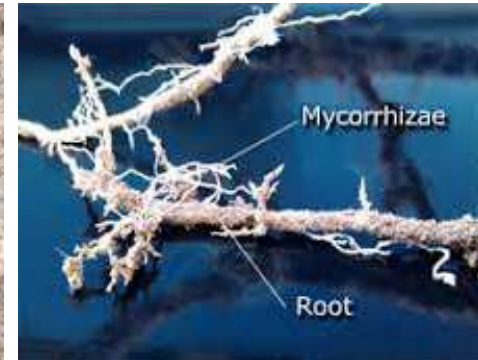
6 months old ; 5 ml / basin.





# Application case of Arpha Gold

## Application in Apple Tree



South Africa farm

Control Group

Experimental Group



## Application case of Arpha Gold

### Application in strawberry seedling raising



Use time: May 1st .  
Use method: Hole application.  
Visit time: June 10th.  
Total time :40 days time.

**The results of follow-up visit:**

The Experimental Group had more 4-5 of shoots than the Control Group on average. Through communication with farmers, a mother of seeding could produce 50-60 of shoots until July 20.



## Application case of Arpha Gold

### Application in Strawberry



After using **Arpha Gold**, it can form a large number of white Mycorrhizae, extend the root system to increase the coverage area, enhance the plant absorption capacity of water and fertilizer, convert non-absorbable or difficult-to-absorb nutrients into available resources (such as phosphorus, zinc, copper, sulfur, molybdenum), especially to promote the absorption of phosphorus.



## Application case of Arpha Gold

### Application in Cucumber



**Result:** Root development and nematode control are better and the yield is higher.





## Application case of Arpha Gold

### Application in Chinese medicinal materials



**Result:** Plant has better growth quality (more oil content, and more potent medicinal ingredients).



## Application case of Arpha Gold

Application in *Pelargonium hortorum*



Experimental Group

Control Group



## Application case of Arpha Gold

### Application in White Gourd



**Conclusion:** Compared with the control group, the experimental group still has vigorous growth, it can also continue to produce. the control group has begun to appear a large area of decline. This product can through fewer dead shoots and better root systems to ensure sustainable yields.



## Application case of Arpha Gold

### Application in Big Ginger



USAGE : Directly sprinkle, 1.4L/167m<sup>2</sup>.



## Application case of Arpha Gold

### Application in *Trichosanthes kirilowii Maxim*



**After 30 days' follow-up:** There was a significant difference in the death rate between the Experimental Group and the Control Group. The seedling dead rate was 15% in Experimental Group and 70-80% in the Control Group. After symbiosis with plant roots, it can resist and inhibit other pathogenic bacteria in soil, improve the quantity and kind of soil flora, and repair or improve the soil microscopically.



## Application case of Arpha Gold

### Application in Yam

**USAGE:** 90 L/ha of this product, mixed with sand ditch Shi, and then put yams seed on.



#### Farmers Feedback:

- 1. The emergence of Seedling is fast and neat :** The emergence of Seedling is 7-10 days earlier in Experimental Group than in Control Group. After replanting and using Arbuscular mycorrhiza soil conditioner, you can see the soil surface crack and seed sprout after 3 days.
- 2. Enhance resistance:** Disease resistance of Yam is increased, the lower leaves without any yellowing phenomenon, no signs of anthracnose .
- 3. Protective effect on seed block:** The root system is well developed, which has obvious protective effect on the seed block of Yam, the uninfected Yam seed blocks do not decay and shrink after contact with Arbuscular mycorrhiza soil conditioner .



# Analysis Report of Arpha Gold

CHICO CROP SCIENCE CO.,LTD



## Analysis Report of Arbuscular mycorrhiza soil conditioner

Report No. 2020-BRAS -0606

Product Name	Arbuscular mycorrhiza soil conditioner	Batch No.	BRA200606
Producing Date	2020-06-06	Test Date	2020-06-06
Test Result & Conclusion			
Analysis Items	Specification	Test results	
Appearance	Porous solid particle	Light porous black granules	
Fungal spore count	≥ 70	96.2	
PH	5-9	7.37	
Water content %	≤ 20	0.54	
Fineness size %	≥ 80	96.51	
Harmless Technical Index	Mortality rate of ascaris eggs %	≤ 95	None
	Cd,(mg/kg)	≤ 10	0.56
	Pb,(mg/kg)	≤ 100	None
	Cr,(mg/kg)	≤ 150	21.22
Conclusion			Qualified
Report Date 2020-06-06			

Chief Analyzer: Xia Lang

Examiner: Wang Jiajia

Inspector: Xie Min

For and on behalf of  
CHICO CROP SCIENCE CO., LIMITED

Signature: Xie Min

Authorized Signature

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# Thanks!

Chico Crop Science Co., Ltd.