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Питание и защита растений



PRODUCTS

INTRODUCTION

PLANT NUTRITION AND PROTECTION DEPARTMENT



Catalog

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BREIF INTRODUCTION OF ANGEL



Angel Yeast Co., Ltd is a national key high-tech enterprise specialized in the production and management of yeast bio-tech products. Angel is the leading enterprise in the domestic yeast industry and the 3rd largest yeast manufacturer of the world. Angel has 12 holding subsidiaries in Hubei, Guangxi, Xinjiang, Shandong, Inner Mongolia, Henan, Hong Kong, Cairo Egypt, Lipetsk Russia and other places.

With the SAP-ERP and CRM systems, Angel Yeast global informationalized operation runs well. And also the application technology service centers and product experience centers were established in Africa, Asia, Europe and China to provide solutions of products and service for more than 140 countries and regions.

BUSINESS PHILOSOPHY



PLANT NUTRITION AND PROTECTION DEPARTMENT



In recent years, Angel lays stress on the program of circular economy, devotes to the development of the reclamation of molasses-based yeast fermentation broth. Based on yeast fermentation broth, Angel developed new fertilizer products (organic fertilizer, semi-organic fertilizer, bio-organic fertilizer, water-soluble fertilizer, biological fishing fertilizer, fungus auxin, etc.) with NPK, organic matter as well as medium and trace elements. Thereinto, organic fertilizer and bio-organic fertilizer obtained both of the ECOCERT certificate and China organic product certificate firstly. The production capacity of fertilizers is about 400,000 tons which grows step by step, 13 production lines were put into operation in Yichang Hubei, Yili Xinjiang, Chongzuo Guangxi, Chifeng Inner Mongolia, Dehong Yunnan, etc.

SEEKING FOR MORE
NEVER SATISFIED

PRODUCTS INTRODUCTION



CMS Powder (China)



Physico-chemical Characteristics

Total nitrogen (on dry)	≥2.0 %
K ₂ O (on dry)	≥8.0 %
Moisture	≤4.0%
Organic matter (on dry)	≥55%
Fulvic acid (on dry)	30–35%
pH value	4.5–6.0
Ash	≤40.0%
Lead	≤2.0 mg/kg
Arsenic	≤15.0 mg/kg

Application:

1. Irrigation/spaying: Dilute the fertilizer with 500–800 times water before irrigation/spraying. Apply 200–400kg/ha.
 2. Root-irrigation: Dilute the fertilizer with 500–800 times water before irrigation around the roots. Irrigate once every 7–10 days.
 3. Drop-irrigation: Dilute the fertilizer with 800–1000 times water before irrigation. Irrigate 3–5 times. Apply 200–400kg/ha.
- Apply with mineral fertilizer for better effect.

Major functions:

1. Kinds of nutrition and timely supply. It is rich in Organic matter, amino acids, proteins, nucleic acids and bio-fulvic acid, while it contains inorganic (N+P₂O₅+K₂O) nutrients and calcium, magnesium, sulfur, iron, zinc, manganese, copper, molybdenum, boron and other trace elements, which satisfy the requirements of crops. Nutritional balance improves crop growth, buds fatness, roots strength, seeding vigorous, well leaf photosynthesis, lodging-resistance, high fruit set rate, and make the crops early bring forward market and extend the harvest picking.
2. Improvement of nutrients balance in the soil. Application of fertilizers can promote the formation of aggregate structure and improve the capacity of soil permeability, water, fertilizer and drainage by the gelation, adsorption and mineralization, and coordinate the four factors of supplement of water, fertilizer, gas and heat in the arable land, so that to achieve sustainable use of soil.
3. Complement organic matter, activate available Microorganisms. Beneficial bacteria break down the fixed NPK nutrients in soil, reduce losses and improve fertilizer efficiency, and inhibit the spread of harmful micro-organisms development, active plant activity, and improve crop resistance, anti-cropping and so on.



Organic fertilizer (FY-9) Granular



Physico-chemical Characteristics

Total nitrogen (on dry)	≥2.0 %
K ₂ O (on dry)	≥8.0 %
Moisture	≤4.0%
Organic matter (on dry)	≥45%
Fulvic acid (on dry)	20–30%
Mg	2%
Betaine	3–5%
pH value	4.5–8.0
Lead	≤2.0 mg/kg
Arsenic	≤15.0 mg/kg

Application:

1. **Irrigation/spaying:** Dilute the fertilizer with 500–800 times water before irrigation/spraying. Apply 200–400kg/ha.
2. **Root-irrigation:** Dilute the fertilizer with 500–800 times water before irrigation around the roots. Irrigate once every 7–10 days.
3. **Drop-irrigation:** Dilute the fertilizer with 800–1000 times water before irrigation. Irrigate 3–5 times. Apply 200–400kg/ha.
4. As base fertilizer, apply 300–600kg/ha with appropriate amount compound fertilizer 5–7 days before crops transplanting or 5–7 days after harvest. Apply with mineral fertilizer for better effect.

Major functions:

1. **Kinds of nutrition and timely supply.** It is rich in Organic matter, amino acids, proteins, nucleic acids, betaine and bio-fulvic acid, while it contains inorganic (N+P₂O₅ +K₂O) nutrients and calcium, magnesium, sulfur, iron, zinc, manganese, copper, molybdenum, boron and other trace elements, which satisfy the requirements of crops. Nutritional balance improve crop growth, buds fatness, roots strength, seeding vigorous, well leaf photosynthesis, lodging-resistance, high fruit set e rate, and make the crops early bring forward market and extend the harvest picking.
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3. **Complement organic matter, activate available Microorganisms.** Beneficial bacteria break down the fixed NPK nutrients in soil, reduce losses and improve fertilizer efficiency, and inhibit the spread of harmful micro-organisms development, active plant activity, and improve crop resistance, anti-cropping and so on.



Organic Fertilizer with Tobacco (Granular)



Physico-chemical Characteristics

Total nitrogen (on dry)	≥ 1.5 %
K ₂ O (on dry)	≥ 1.5 %
Moisture	≤ 15.0%
Organic matter (on dry)	≥ 60%
Fulvic acid (on dry)	30–40%
pH value	5.0–8.0
Lead	≤ 2.0 mg/kg
Arsenic	≤ 15.0 mg/kg

Application:

As base fertilizer, apply 300–600kg/ha with right amount compound fertilizer 5–7 days before crops transplanting or 5–7 days after harvest.

Tobacco stem organic fertilizer function:

The tobacco stem organic fertilizer contains natural nicotine which can protect crops from underground pests (mole crickets, meloidogyne, grubs and etc.). It helps to decrease the application of pesticides, is safe and residue free. It combines biological, organic, mineral nutrition, can improve the quality of soil and crops, increase the quality and quantity of harvests.



5% Organic Fertilizer



5% Organic fertilizer (granular)

Appearance: Dark brown, granular

NPK ≥ 5%

Organic matter ≥ 45%

Application:

Apply 120–180kg/ha 5–7 days before application of chemical fertilizers and keep the soil wet after application. It can be used as base and additional fertilizer.

Apply with mineral fertilizer for better effect.



Angel Nitrogen fertilizer Granular(NPK :15-0-5)



Physico-chemical Characteristics

Total nitrogen (on dry)	≥ 15 %
K ₂ O (on dry)	≥ 5 %
Moisture	≤ 4.0%
Mg	≥ 1%
S	≥ 14%
pH value	5.5–8.0
solubility	99–100%

Application:

- 1.Irrigation/spaying: Dilute the fertilizer with 500–800 times water before irrigation/spraying. Apply 25kg/ha.
- 2.Root-irrigation: Dilute the fertilizer with 500–800 times water before irrigation around the roots. Irrigate once every 7–10 days.
- 3.Drop-irrigation: Dilute the fertilizer with 800–1000 times water before irrigation. Irrigate 3–5 times. Apply 25–50kg/ha.
4. As base fertilizer, apply 200–400kg/ha with appropriate amount compound fertilizer 5–7 days before crops transplanting or 5–7 days after harvest.

Major functions:

- 1.Supply nitrogen nutrition.it is rich in Nitrogen nutrition, medium element, and contain bio-fulvic acid, which satisfy the requirements of crops. Nitrogen can improve crop growth, buds fatness, roots strength, well leaf photosynthesis.
- 2.Increase the total biomass and economic output, improve the nutritional value of agricultural products, especially increase the protein content in seeds, improve the nutritional value of food.
- 3.Nitrogen is the main component of protein in crops. nitrogen is also a component of chlorophyll and many enzymes. Chlorophyll is a necessary substance for photosynthesis of crops, and enzymes are catalysts for the transformation of various substances in crops. Nucleoproteins and alkaloids also contain nitrogen. It can be seen that nitrogen plays an extremely important role in crop nutrition.



Angel Nitrogen fertilizer Granular(NPK :15-0-5)



Physico-chemical Characteristics

Total nitrogen (on dry)	≥ 20 %
K ₂ O (on dry)	≥ 5%
Moisture	≤ 4.0%
Zn	≥ 300 PPM
B	≥ 300 PPM
solubility	100%

Application:

- 1.Irrigation/spaying: Dilute the fertilizer with 500–800 times water before irrigation/spraying. Apply 25kg/ha.
- 2.Root-irrigation: Dilute the fertilizer with 500–800 times water before irrigation around the roots. Irrigate once every 7–10 days.
- 3.Drop-irrigation: Dilute the fertilizer with 800–1000 times water before irrigation. Irrigate 3–5 times. Apply 25–50kg/ha.
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I REPRESENT FOR “FUBON” VOL.4



The greenhouse

In recent years, Angel lays stress on the program of circular economy, devotes to the development of the reclamation of molasses-based yeast fermentation broth. Based on yeast fermentation broth, Angel developed new fertilizer products (organic fertilizer, semi-

organic fertilizer, bio-organic fertilizer, water-soluble fertilizer, biological fishing fertilizer, fungus auxin, etc.) with NPK, organic matter as well as medium and trace elements. Thereinto, organic fertilizer and bio-organic fertilizer obtained both of the ECOCERT certificate and China organic product certificate firstly. The production capacity of fertilizers is about 400,000 tons which grows step by step, 13 production lines were put into operation in Yichang Hubei, Yili Xinjiang, Chongzuo Guangxi, Chifeng Inner Mongolia, Dehong Yunnan, etc.



The pepper applied with “FUBON” fertilizer

We visited Zhang Fuchao’s greenhouse, the vegetable farmer from Zhangpo village, Heguan county, Qingzhou, Shandong province.

They applied “FUBON” fertilizer for a long time, 7% bio-organic fertilizer with tobacco as base fertilizer, drop-irrigation with 10% bio-organic water soluble fertilizer. As a result of the application, the soil became puffy and the roots of vegetables became strong.

“FUBON” series fertilizers are made of food grade raw materials, with advanced quality.



Application of Fubon FY-9



Seedling stage comparison between “FY-9” (left) and other brands fertilizer

The planting area of sugarcane in Panyu is close to 4,000 ha.

After spring ploughing, the fields have grown green seedlings of black sugarcane in Dong Chong town Panyu where the local sugarcane farmers are

fertilizing the seedlings. As the saying goes: look great from small. The quality of this batch of sugarcane is good by seeing the growth of seedlings. Why others' cane seedlings didn' t grow, but the seedlings here are so strong? We went to ask the sugarcane farmers with this question. The result is unexpected.



Seedlings grows well trunk is strong

Blindly applying compound fertilizer, the soil begins to become "hard". Many problems occurred such as acid-base imbalance of soil, residual of heavy metals, the sugarcane doesn't grow due to the lack of beneficial bacterium in soil have been exposed.

Therefore, Fubon promotes team shoulder responsibility in order to popularize the importance and necessity of applying high quality organic fertilizer to sugarcane farmers. The improvement of soil quality can effectively prevent the phenomenon from growth. Through the experiment contrast, the results showed that the growth of seedlings which apply "FY-9" twice a year, and apply 300kg per ha is better than the seedlings which apply other brands' fertilizer. The surrounding soil is moist, the trunk is strong.

The secret of good quality and price of citrus



In May 2019, late maturing citrus entered the first fruit thinning period. The author came to Wolong Town, Qionglai City, Sichuan Province, and Liu Youliang, a late-maturing citrus planter, was thinning the fruit. He told the author that the first fruit thinning is one of the key points to ensure the yield and quality of citrus. For citrus farmers, high yield and high quality have always been their goal of citrus

management, but how to achieve this goal, Liu Youliang believes that by selecting and using appropriate fertilizer, the quality of citrus will naturally improve.

Sichuan is located in the southwest of China, the climate there is rainy and humid, which provides favorable conditions for the growth of late-maturing citrus. In order to improve the yield and quality of citrus and ensure the efficiency of planting, Liu Youliang hopes to find a fertilizer that can improve the soil conditions and provide the citrus trees with the nutrients needed for their growth. After introduced by friends, he learned about the Angel Fubon yeast source organic nutrient fertilizer.



"I started to use Angel Fubon's fertilizer in 2016. I didn't dare to use it at first. I only tried 2 tons." Liu Youliang said that he chose a small amount of fruit trees to apply. Unexpectedly, the fruit trees applied with organic fertilizers were quickly have an effect: the leaves were thick and shiny, and the trees grew much better than before.

Liu Youliang re-planned his 62-mu orchard, implemented refined management, and started to use Angel Fubon yeast source organic nutrient fertilizer in the whole orchard. After achieving quality improvement in his orchard, he shared his successful experience with more friends, and they all start to use this fertilizer under his recommendation. Liu Youliang said: "My neighbor has planted more than ten mu of kiwifruit. When topdressing, he used the water-soluble organic fertilizer of Angel Fubon to irrigate the kiwifruit. After the irrigation, the shape of the trees is obviously better looking, the leaves become thicker and darker, and the effect is excellent!"

The worrying viral disease of the “Sunshine Rose” Grapes can be “healed” ?



Grape leaf curling

Boss Ding of Xianyang City, Shanxi Province has been engaged in the cultivation of “Sunshine Rose” Grapes for many years. In mid-March this year, he accidentally learned about Angel “Fubon” yeast source organic nutrient fertilizer. Boss Ding was soon attracted by this effective organic fertilizer. The following two months he began to try to use the

“FY-9” water soluble granular organic fertilizer and the “Newbom” water-soluble compound fertilizer (NPK: 17-17-17) the whole fertilizing process.



*The leaf surface has fully extended
and the growth was good*

Use ratio: Use “FY-9” 20kg per mu, Use “Newbom” 20kg per mu, nitrogen fertilizer 3kg per mu. Because the “Sunshine Rose” variety is born with a viral disease which could cause the shrink of leaf surface, resulting in slow growth, foliar deformity, poor taste and so on. The

result after use was shown in the following pic:

Starting from May when the height of the “Sunshine Rose” grapes were at about 30 cm, Boss Ding found that the application of “Yiweiyuan FY-9” full-water soluble granular organic fertilizer can alleviate the special condition of the variety, so he applied every 10 days, 20kg for 1 mu. After 10 days, the crops have been obviously “spiritual”.

Boss Ding gradually reduced the use of fertilizer the fourth time after fertilizing once every 10 days because the grapes have already passed the hardest time of viral disease by the application of “Fubon” and the “Newbom”, and it is currently growing well. In consideration of the excessive use of fertilizer may affect the growth of grapes, it is recommended to fertilize the grapes once every half month.

By fertilization comparison, we clearly found that the vines and leaf surface size of the grapes were strong in contrast. Boss Ding was very satisfied with the result and he was looking forward to the performance of the late fruit bearing.

Planting “Bee Sugar Plum”, only one method to say goodbye to the weak tree, small fruit bearing etc



Plum fruits bearing

Boss Yang from the Liuma Town cooperative has contracted 5,000 acres of plum gardens in the local area. Due to the location in the mountainous area, the soil erosion of the orchard was serious. The water retention and fertilizer retention capacity of the soil gradually weakened, which led to the fact that Boss Yang's plum trees were weak and the fruits were small.

The measurement of sugar content comparison

Seeing that there was no hope for a bumper harvest, in order to restore this orchard and reduce losses, agricultural technology experts of “Fubon” gave some advises for Boss Yang: Using “Fubon” organic fertilizer (powder water soluble type) + “Newbom” full water soluble compound fertilizer (NPK: 15-5-30) package. After applying the “Fubon” + “Newbom” package fertilizer for 25 days, the time was right for a harvest. The “Fubon” team found that the plum fruits were good and fruitful; the trees were good, the leaves were green and shiny. By testing the sugar content, the plum on the left side which has used the Fubon + Newbom package reached 10.8, and the right side which has used the other fertilizer was only 8.9, which has clearly difference.



Boss Yang' s plum trees not only have losses, in contrast the trees were strengthened. The fruits were evenly distributed and the sugar content was increased. Therefore, he was full of praise for the “Fubon” and “Newbom” fertilizers. Compared with traditional organic fertilizer, Fubon organic fertilizer (powder water soluble type) only needs 0.5-1KG for an adult tree, while the traditional organic fertilizer requires 5-10KG, which not only saves time and effort, but also cost-effectiveness, and it is quick-dissolving and quick-acting. The coloring of sugar is particularly obvious. Boss Yang said that he will vigorously promote the “Fubon” and “Newbom” products , and lets the surrounding people to produce more quality plums.

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