



Healthy soil · Healthy crops · Pure agriculture

# KoSi-Bio

Water-soluble  
silicate



A guidebook of product to produce a  
Eco-friendly, Bio-agricultural products

# Water-soluble Silicate

## What is the water-soluble silicate ?

By heating to 1650°C or over the natural-silica, removes the impurities, the trace elements that is beneficial to the crop is manufactured as it is

In case of soil and foliar application, It is absorbed into every crop, 100% which is very effective, since it is usefully operated as a water-soluble.

A quality that completely differentiates one thing from another insolubility and soluble silicate. It was invented as the forth product in the world on the back of U.S, German, Japan. Getting a patent (patent No. 0415594) that is a remarkable item to produce natural chemical-free, friendly environment, bio-agricultural product.



## A characteristic and effectiveness of water-soluble silicate

1. soil improvement, water quality cleansing, inhibitive action of bacteria, control of fertilizer effect (nitrogen excess, absorption disorder of phosphoric acid etc.)
2. improvement of fruit set rate, an increased yield effect, improvement in quality of crop, alleviation of chilling injury and cold damage
3. Reinforcement of cell due to forming of silicate layer in the cell wall of plant. Reinforcement of lodging resistance, advancement of resistance from the virus, bacteria, damage by insect.
4. Absorption, decomposition and neutralization of agricultural chemical elements.
5. Increasement of keeping quality (preservation of freshness) and sugar content.

## The difference of solubility, soluble, and water-soluble silicate

solubility silicate	soluble silicate(SiO <sub>2</sub> )	water-soluble silicate(SiO <sub>3</sub> )
absorption to crop only about 0.002% per year.	absorption to crop about 80-95%. Overusing, destruction of tissue cell	Aspiration and absorption to crop completely 100%, Operation as an essential element of a nutriment
—	Impossibility of mixed with a microbe, adhesive agent and agricultural chemical (Impossibility of aerial application)	Possibility of mixed with a microbe, adhesive agent (saving the cost of labor) possibility of aerial application . ※ In the case of mixing, Please contact us in advance.

※ The 100% water-soluble silicate product is only the Kosi-Bio, which is very superior aspect of quality and effectiveness.

# "Go to work with Ok-Kwang for producing bio-agricultural products, healthy soil and crop"

## ○ The positive influence of silicate on the agricultural products

### Soil of the Korea

1. The acidification is more accelerated due to soil and loss of nutrient during the rainy season and heavy rain. (pH of rainwater is acid water of 5.4)
2. Below the mark of chemical ingredient content in the soil
  - pH : 5.9(optimum level 6.5)
  - ※Below the field of optimum level 6.5 - 78% of whole farmland
  - ppm : 118(optimum level is necessary for 130-180)
  - ※Below the field of optimum level 130 - 85% of whole farmland.

### Acid soil

1. A falling-off in quality for Nutrient absorption disorder in the crop of growth is lowered. (If pH fall from 7 to 5, nutrient coefficient of utilization will be lowered to N 57%, K 54%, P<sub>2</sub>O<sub>5</sub>66%)
2. Operation of soil microbe will be largely weakened.(Due to suitability growth pH 6.0-7.0 of soil microbe, growth activity of microbe will be restrained.)
3. noxious ion may be eluted than others.  
So, not only field crop but also rice filed needs silicate to improve soil absolutely, government has been providing farmer with silicate fertilizer for free.

※Water-soluble silicate product of Kosi-bio is 100%, which is absorbed into soil and crop. The effect is very excellent.

The silicate is the Eco-friendly Notification products of the Ministry of Agriculture and Forestry.

## ○ The news about the silicate

“  
Efficiency and ripple  
effect of  
agricultural materials  
Using a Water-soluble  
silicate  
of the Kosi'-bio  
”



# Soil improvement(800g) Ok-Kwang granule



## ○ A characteristic and operation of the Ok-Kwang granule

By being absorbed to the root, It can form a silicate layer, which prevents pest and insect decease from invading and increasing, due to forming a protective layer, so it is a great help to use an agricultural chemicals.

- Only just one, long-lasting effect. The product helps to cut labor cost.
- Neutralizing acid soil, Neutralizing harmful metals and remaining agricultural chemicals.
- Controlling of internode elongation and becoming strong plant cell 2~3times
- Adjustment to absorbtion of nitrogen and controlling damage of over growth.
- As a anion product, maximizing of chemical operation(improving aeration of soil and suction restraint of over nitrogen, solubilization of insoluble phosphoric acid of and improvement of excess damage)
- Cleaning the soil water, It can fundamentally restrain the cause of disease and insect pest.
- It is very excellent for to improve quality for storage and sugar content.
- Promoting the growth due to absorption(promoting growth of root, increasing survival percent and uniformity of the early stage growth on account to taking up together with necessary component)
- Not only nutrition supplement but also activation of bacteria.
- It can suck in SiO<sub>2</sub> even old root(most of the nutrition components absorb in the root cap)
- Once absorbed in soil tissue, It is not flow out.(Even though it is not washed, the water is drained away.)
- Prevention of cooling injury due to 2000 vibration per 1 minute( $\pm 2^{\circ}\text{C}$ ) - 5~20 giving off far infrared ray

## ○ Application period of soil improvement

Water-soluble silicate can be completely absorbed the whole year, The earlier scatter, the better effective, When it is low air and ground temperature, It is very excellent condition,

- every crop planting before 5~6 months(the best), before 2~3months(good), before 1month(normal)
- ※ If you miss the spraying season  
Before cultivation or right after(the best), working of rotari(good), crop planting(normal)  
: Don't directly touch the root.

## ○ Application methods

Ⓐ rice field is sprayed per 10a    Ⓐ patch is sprayed 7a to the soil.

- It is sprayed with mixing compost, organic fertilizer and bacteria and So does every crop.

# Leaf spray & irrigate materials(500cc) Ok-Kwang gold&liquid



## Ok-Kwang gold(only growing seedling and mold)

- Only circulation in the plant, as an anion water-soluble complex fertilizer.
- Excellent resistibility about the phytophthora & downy mildew mycota
- Increasing resistibility on a kind of mold, putrefactive bacteria and
- In the greenhouse, maximizing of relieving on virus.
- Giving off of the far infrared ray, revitalization of cellular tissue dangerous substances emission.

## Application methods of Ok-kwang Gold

- If the growth is not good condition during the raising of seedling, you can drench or foliar application 3000 times.
- Before 7~10 days of planting, you can drench or foliar application 1,500~2,000 times.
- while mold disease is generated, you can drench or foliar application 1,000~2,000 times. (10~20cc per 20L water) in case of fruit tree, foliar leaf spraying to 1000 times.

## The effect and operation of Ok-Kwang liquid

- Every tissue of plant is strong more 3~4times.
- This product can restrain internode elongation of soil surface, coated epidermal tissue has a excellent effect about lodging resistance, bacillus and virus damage.
- Forming of silicate double layer, increasing both disease tolerance and insect resistance increase, due to the effect of a preliminary prevention.
- Raising its immunity, a preliminary prevention of disease and pest injury, as it is difficult for a harmful insect, virus and bacteria spore to increase.
- As a Eco-friendly product, Having a possibility for low agricultural chemicals, none-pesticides and Eco-friendly cultivation.
- Resistance improvement about a change in the weather(high temperature, low temperature lack of shine and typhoon)
- Suppression of the aging process for leaf(constraint of aging formation in plant)
- Alleviation of damage about neutralizing the effects of poison of agrichemical, fertilizer and weed killer
- For Freshness preservation, improving hypotonicity and increasing sugar content, It is a possibility for quality improvement of every crop.
- Helping to cut labor cost, since, It is easy for agricultural chemicals to combine application.

## Application methods of Ok-kwang liquid

- During the planting, watering a 1,500 times instead of normal water
- After 15 days of planting, leaf spraying and drench an interval of 15~20 days prior to 15 days of the harvesting season.
- In the event of excessive over growth, leaf spraying and drench to 700~500 times
  - ※ A criterion : 1 bottle(500cc) × 1000 times(water 500L) around spraying of 33a
  - ※ According to kinds of big and small of plant, spray addition and subtraction(for example : fruit tree 23~26.5a)
  - ※ In case of generating of vine splitting and epidermis dividing, If you apply pure form to wound 5days interval, the effect will be very excellent.

# The application method of water-soluble silicate

## Rice

### Rice

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>• After harvest(Nov-Dec) or thaw(Feb-Apr), one bottle per 10a, followed by spraying the soil all over then cultivation.</li> </ul>	<ul style="list-style-type: none"> <li>• Only just one, 1 year lasting effect</li> <li>• Improvement of soil fertility, neutralization of acid soil.</li> <li>• Cleansing soil water, prevent from infection.</li> <li>• Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li>• <b>Seedling raising stage</b> <ul style="list-style-type: none"> <li>- After 15days of germination, spraying 3,000 times liquid, (application 6cc per water 20L)</li> <li>- Before 7-10days of rice-planting, spraying 2,000-3,000 times liquid. (application 6-10cc per water 20L)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Prevent nitrogen from over-absorption (quality of rice grain improvement)</li> <li>• Controlling of internode elongation, becoming strong plant, leaf to 3-4times, and preventing lodging.</li> <li>• For becoming a strong leaf, stem leading a tissue strengthening and prosperous condition of photosynthesis</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li>• <b>Permanent field</b> <ul style="list-style-type: none"> <li>- Just before the booting stage, spray 1,000 times liquid(33a). (20cc per water 20L)</li> <li>- Just before the booting stage spray 1,000 times liquid(33a) (20cc per water 20L)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Due to Forming a cuticle layer, repression of evaporation, and the increase in resistibility about insect</li> <li>• Increasing in amount of harvest, rice quality and percent ripened grain can produce high quality rice</li> <li>• For Giving off far infrared ray neutralization of poison, counteraction removal harmful and remaining pesticides in the soil.</li> </ul>

※ Requirement of silicate on the rice cropping | producing a 100kg rice, you need a 1.8kg nitrogen and 14.8kg silicate (8 times more necessary than nitrogen).

# The application method of water-soluble silicate

## Red pepper

### Red pepper

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>After harvesting or Before planting 2-4months, one bottle per 7a, followed by spraying the soil all over then cultivation.</li> </ul>	<ul style="list-style-type: none"> <li>Only just one, 1 year lasting effect</li> <li>Improvement of soil fertility, neutralization of acid soil.</li> <li>Cleansing soil water, prevent from infection.</li> <li>Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li><b>Seedling raising stage</b> <ul style="list-style-type: none"> <li>After 15days of germination, spraying 3,000 times liquid. (application 6cc per water 20L)</li> <li>Before 7-10days of planting, spraying 2,000-3,000 times liquid. (application 6-10cc per water 20L)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Prevent nitrogen from over-absorption(restraint of over growth)</li> <li>For promoting a rooting, fo sterling a healthy seedling.</li> <li>Decrease in growth of insects on the damage of germs and virus.</li> <li>Due to regular distribution, decline of abnormal pepper.</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li><b>Permanent field</b> <ul style="list-style-type: none"> <li>During the planting, watering a 1,500-2,000 times instead of normal water (13cc - 20cc per water 20L)</li> <li>After 10 days of rootage, 15-20 intervals, leaf spraying and drench to 1,000 - 1500times liquid before finishing 20days. (13-20cc per water 20L) → <b>the first and second, 1,500times then 1,000 times.</b></li> <li>During the rainy season, before and after 5days leaf spraying and drench to 1,000times. (Improving effect together with calcium)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Due to Forming a cuticle layer, re pression of evaporation, Decline in damage about high temperature and drought. extension of harvesting season.</li> <li>In case of yield, harvest when it is fully completed.(harvest 1 day late or followed by storage then drying rather than general practice.</li> <li>Due to a high hypertrophy effect of fruit and becoming thick flesh so, good coloring effect can produce high quality pepper.</li> </ul>

# The application method of water-soluble silicate

## Strawberry

### Strawberry

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>• After harvesting or Before planting 2-4months, one bottle per 7a, followed by spraying the soil all over then cultivation.</li> </ul>	<ul style="list-style-type: none"> <li>• Only just one, 1 year lasting effect</li> <li>• Improvement of soil fertility, neutralization of acid soil,</li> <li>• Cleansing soil water, prevent from infection,</li> <li>• Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li>• <b>Seedling raising stage</b> <ul style="list-style-type: none"> <li>- During the germination, spraying 3,000 times liquid. (application 6cc per water 20L)</li> <li>- Before 7-10days of planting, spraying 2,000-3,000 times liquid. (application 6-10cc per water 20L)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Prevent nitrogen from over-absorption(restraint of over growth)</li> <li>• For promoting a rooting, fostering a healthy seedling.</li> <li>• Due to Forming a cuticle layer, repression of evaporation and decrease in damage of drought, extension of harvesting season.</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li>• <b>Permanent field</b> <ul style="list-style-type: none"> <li>- During the planting, watering a 1,500 times instead of normal water (13cc per water 20L)</li> <li>- After 15days of fruit set, Leaf spray with 1,500 times liquid and then, an interval of 15-20days, and leaf spray or drench with 1,000 times liquid before finishing 20days (20cc per water 20L).</li> <li>- During the rainy season, before and after 5days leaf spraying and drench to 1,000times. (Improving effect together with calcium)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Decrease in growth of insects on the damage of germs and virus.</li> <li>• After a planting, promoting a rooting and preventing a transplanting injury.</li> <li>• Improving flower bud differentiation, restraint of over growth and relieving stress.</li> <li>• Increase in hypertrophy of fruit, Improving a sugar content, producing a high quality strawberry due to improvement in keeping quality.</li> </ul>





# The application method of water-soluble silicate

## Water melon

### Water melon

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>• After harvesting or Before planting 2-4months, one bottle per 7a, followed by spraying the soil all over then cultivation.</li> </ul>	<ul style="list-style-type: none"> <li>• Only just one, 1 year lasting effect</li> <li>• Improvement of soil fertility, neutralization of acid soil.</li> <li>• Cleansing soil water, prevent from infection.</li> <li>• Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li>• <b>Seedling raising stage</b> <ul style="list-style-type: none"> <li>- After 5-7days of grafting, spraying enough 3,000 times liquid. (6cc per water 20L)</li> <li>- Before 7-10days of planting, spraying 2,000-3,000 times liquid. (6-10cc per water 20L)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Prevent nitrogen from over-absorption(restraint of over growth)</li> <li>• For promoting a rooting, fostering a healthy seedling.</li> <li>• Due to Forming a cuticle layer, repression of evaporation and decrease in damage of drought, extension of harvesting season.</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li>• <b>Permanent field</b> <ul style="list-style-type: none"> <li>- During the planting, watering a 1,500 times instead of normal water (13cc per water 20L)</li> <li>- After 15days of fruit set, Leaf spray with 1,500 times liquid and then, an interval of 15-20days, and leaf spray or drench with 1,000 times liquid before finishing 20days (20cc per water 20L).</li> <li>- During the rainy season, before and after 5days leaf spraying and drench to 1,000times. (Improving effect together with calcium)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Increase in rate of fertilization</li> <li>• After a planting, promoting a rooting and preventing a transplanting injury.</li> <li>• Decrease in growth of insects on the damage of germs and virus.</li> <li>• Increase in hypertrophy of fruit, Improving a sugar content, producing a high quality water melon due to improvement in keeping quality.</li> </ul>

# The application method of water-soluble silicate

## Melon

### Melon

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>After harvesting or Before planting 2-4months, one bottle per 7a, followed by spraying the soil all over then cultivation.</li> </ul>	<ul style="list-style-type: none"> <li>Only just one, 1 year lasting effect</li> <li>Improvement of soil fertility, neutralization of acid soil.</li> <li>Cleansing soil water, prevent from infection.</li> <li>Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li><b>Seedling raising stage</b></li> <li>- After 5-7days of grafting, spraying enough 3,000 times liquid. (6cc per water 20L)</li> <li>- before 7-10days of planting, spraying 2,000-3,000 times liquid. (6-10cc per water 20L)</li> </ul>	<ul style="list-style-type: none"> <li>Prevent nitrogen from over-absorption(restraint of over growth)</li> <li>For promoting a rooting, fostering a healthy seedling.</li> <li>Due to Forming a cuticle layer, repression of evaporation and decrease in damage of drought, extension of harvesting season.</li> <li>Decrease in growth of insects on the damage of germs and virus.</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li><b>Permanent field</b></li> <li>- During the planting, watering a 1,500 times instead of normal water (13cc per water 20L)</li> <li>- After 15days of fruit set, Leaf spray with 1,500 times liquid and then, an interval of 15-20days, and leaf spray or drench with 1,000 times liquid before finishing 20days (20cc per water 20L).</li> <li>- During the rainy season, before and after 5days leaf spraying and drench to 1,000times. (Improving effect together with calcium)</li> </ul>	<ul style="list-style-type: none"> <li>After a planting, promoting a rooting and preventing a transplanting injury.</li> <li>Increase in rate of fertilization and extension of blooming period</li> <li>Improving flower bud differentiation, restraint of over growth and relieving stress</li> <li>Prevention from filled water melon and ripen effect.</li> <li>Increase in hypertrophy of fruit, Improving a sugar content, producing a high quality melon due to improvement in keeping quality.</li> </ul>

# The application method of water-soluble silicate

## Melon

### Melon

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>After harvesting or Before planting 2-4months, one bottle per 7a, followed by spraying the soil all over then cultivation.</li> </ul>	<ul style="list-style-type: none"> <li>Only just one, 1 year lasting effect</li> <li>Improvement of soil fertility, neutralization of acid soil.</li> <li>Cleansing soil water, prevent from infection.</li> <li>Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li><b>Seedling raising stage</b></li> <li>- After 5-7days of grafting, spraying enough 3,000 times liquid. (6cc per water 20L)</li> <li>- before 7-10days of planting, spraying 2,000-3,000 times liquid. (6-10cc per water 20L)</li> </ul>	<ul style="list-style-type: none"> <li>Prevent nitrogen from over-absorption(restraint of over growth)</li> <li>For promoting a rooting, fostering a healthy seedling.</li> <li>Due to Forming a cuticle layer, repression of evaporation and decrease in damage of drought, extension of harvesting season.</li> <li>Decrease in growth of insects on the damage of germs and virus.</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li><b>Permanent field</b></li> <li>- During the planting, watering a 1,500 times instead of normal water (13cc per water 20L)</li> <li>- After 15days of fruit set, Leaf spray with 1,500 times liquid and then, an interval of 15-20days, and leaf spray or drench with 1,000 times liquid before finishing 20days (20cc per water 20L).</li> <li>- During the rainy season, before and after 5days leaf spraying and drench to 1,000times. (Improving effect together with calcium)</li> </ul>	<ul style="list-style-type: none"> <li>After a planting, promoting a rooting and preventing a transplanting injury.</li> <li>Increase in rate of fertilization and extension of blooming period</li> <li>Improving flower bud differentiation, restraint of over growth and relieving stress</li> <li>Prevention from filled water melon and ripen effect.</li> <li>Increase in hypertrophy of fruit, Improving a sugar content, producing a high quality melon due to improvement in keeping quality.</li> </ul>



# The application method of water-soluble silicate A kind of fruit vegetables

## ○ A kind of fruit vegetables

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>• After harvesting or Before planting 2-4months, one bottle per 7a, followed by spraying the soil all over then cultivation.</li> </ul>	<ul style="list-style-type: none"> <li>• Only just one, 1 year lasting effect</li> <li>• Improvement of soil fertility, neutralization of acid soil.</li> <li>• Cleansing soil water, prevent from infection.</li> <li>• Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li>• <b>Seedling raising stage</b> <ul style="list-style-type: none"> <li>- After 10-15days of grafting or germination, spraying enough 3,000 times liquid. (6cc per water 20L)</li> <li>- before 7-10days of planting, spraying 2,000-3,000 times liquid. (6-10cc per water 20L)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Prevent nitrogen from over-absorption(restraint of over growth)</li> <li>• For promoting a rooting, fostering a healthy seedling.</li> <li>• Due to Forming a cuticle layer, repression of evaporation and decrease in damage of drought, extension of harvesting season.</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li>• <b>Permanent field</b> <ul style="list-style-type: none"> <li>- During the planting, watering a 1,500 times instead of normal water (13cc per water 20L)</li> <li>- After 10days of fruit set, Leaf spray an interval of 15-20days, and leaf spray or drench with 1,000 times liquid before finishing 20days(20cc per water 20L).</li> <li>- During the rainy season, before and after 5days leaf spraying and drench to 1,000times. (Improving effect together with calcium)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Decrease in growth of insects on the damage of germs and virus.</li> <li>• After a planting, promoting a rooting and preventing a trans planting injury.</li> <li>• Increase in rate of fertilization and extension of blooming period.</li> <li>• Due to regular distribution, decline of abnormal fruit vegetables.</li> <li>• Increase in hypertrophy of fruit, Improving a sugar content, producing a high quality fruit vegetables due to improve ment in keeping quality.</li> </ul>

# The application method of water-soluble silicate

## Vegetables

### Vegetables

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>• After harvesting or Before planting 2-4months, one bottle per 7a, followed by spraying the soil all over then cultivation.</li> </ul>	<ul style="list-style-type: none"> <li>• Only just one, 1 year lasting effect</li> <li>• Improvement of soil fertility, neutralization of acid soil.</li> <li>• Cleansing soil water, prevent from infection.</li> <li>• Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li>• <b>Seedling raising stage</b></li> <li>- After 10 days of grafting , spraying enough 3,000 times liquid, (6cc per water 20L)</li> <li>- before and after 10days of planting, spraying 2,000-3,000 times liquid, (6-10cc per water 20L)</li> </ul>	<ul style="list-style-type: none"> <li>• Prevent nitrogen from over-absorption(restraint of over growth)</li> <li>• For promoting a rooting, fostering a healthy seedling.</li> <li>• Due to Forming a cuticle layer, repression of evaporation and decrease in damage of drought, extension of harvesting season.</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li>• <b>Permanent field</b></li> <li>- During the planting, watering a 1,500 times instead of normal water (13cc per water 20L)</li> <li>- After 10 days of rootage, 15-20 intervals, leaf spraying and drench to 1,000 -1500 times liquid before 10days, (20cc per water 20L)</li> <li>- During the rainy season, before and after 5days leaf spraying and drench to 1,000times. (Improving effect together with calcium)</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease in growth of insects on the damage of germs and virus.</li> <li>• After a planting, promoting a rooting and preventing a transplanting injury.</li> <li>• For preventing physiological stress, prevention of stem changing brown and aberration bulb formation</li> <li>• As a Eco-friendly product, After spraying, no harm for human body</li> <li>• Not only mesophyll plump but also increasing coloring, after harvesting, improvement of quality for storage, having a possibility to produce high quality.</li> </ul>

# The application method of water-soluble silicate

## Bulbs and Tubers

### Bulbs and Tubers

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>• After harvesting or Before planting 2-4months, one bottle per 7a, followed by spraying the soil all over then cultivation,</li> </ul>	<ul style="list-style-type: none"> <li>• Only just one, 1 year lasting effect</li> <li>• Improvement of soil fertility, neutralization of acid soil,</li> <li>• Cleansing soil water, prevent from infection,</li> <li>• Repeated cultivation, prevention of salty disorder and alleviation,</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li>• <b>Seedling raising stage</b></li> <li>- After 10-15days of grafting or germination, spraying enough 3,000 times liquid, (6cc per water 20L)</li> <li>- before 7-10days of planting, spraying 2,000-3,000 times liquid, (6-10cc per water 20L)</li> </ul>	<ul style="list-style-type: none"> <li>• Prevent nitrogen from over-absorption(restraint of over growth)</li> <li>• For promoting a rooting, fostering a healthy seedling.</li> <li>• Due to Forming a cuticle layer, repression of evaporation and decrease in damage of drought, extension of harvesting season,</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li>• <b>Permanent field</b></li> <li>- During the planting, watering a 1,500 -2,000 times instead of normal water (10-13cc per water 20L)</li> <li>- After 10 days of rootage, 15-20 intervals, leaf spraying and drench to 1,000 - 1500times liquid before finishing 20days, (13-20cc per water 20L) → <b>the first and second, 1,500times then 1,000 times.</b></li> <li>- During the rainy season, before and after 5days leaf spraying and drench to 1,000times. (Improving effect together with calcium)</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease in growth of insects on the damage of germs and virus,</li> <li>• After a planting, promoting a rooting and preventing a transplanting injury.</li> <li>• prevention of physiological stress and solution,</li> <li>• Increase in taking nourishment, Not only mesophyll plump but also increasing coloring and increase in amount of harvest.</li> <li>• Improvement of quality for storage, having a possibility to produce high quality, due to forming a silicate layer,</li> </ul>



# The application method of water-soluble silicate

## Apple · Pear · Grape · Peach

### Apple · Pear · Grape · Peach

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>● <b>The existing orchard</b> until the Early in Nov.- Mar, around of a fruit tree centered, one bottle per 7a to soil application.</li> <li>● <b>Preparation field</b> Before 2-3years of planting(every fall or spring), After overall application one bottle per 7a, tasking the plowing.</li> </ul>	<ul style="list-style-type: none"> <li>● Only just one, 1 year lasting effect</li> <li>● Improvement of soil fertility, neutralization of acid soil.</li> <li>● Cleansing soil water, prevent from infection.</li> <li>● Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li>● when you plant a fruit tree, water enough with 1,500 times liquid, rooting and early growth stage is active.(13cc per water 20L)</li> <li>● An outbreak of mold, spray once or twice with 1,000-1,500 times liquid. (13-20cc per water 20L)</li> </ul>	<ul style="list-style-type: none"> <li>● Promoting of new root</li> <li>● more than 2,000 minute vibrations for 1 minute, improving tolerance of cold damage and frost.</li> <li>● prevention of physiology stress and increase in rate of fertilization.</li> <li>● prevention of deformation and increase in fruit set.</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li>● 10days of flowering before and after, leaf spray with 1,500 times liquid (15cc per water 20L)</li> <li>● After 10days of fruit set, an interval of 15-20days, leaf spray or drench with 1,000 times liquid before finishing 20days. (20cc per water 20L).</li> <li>● Before and after 5days of rainy season, leaf spray with 1,000 times liquid (Improving effect together with calcium)</li> <li>● After harvesting, watering with 1,000 times liquid, increase in amount of nourishment.(20cc per water 20L)</li> </ul> <p>※ Do not spray during the time of fertilization.</p>	<ul style="list-style-type: none"> <li>● Being strong of plant tissue, decrease in fruit drop.</li> <li>● increase in disease tolerance and insect resistance</li> <li>● prevention and decrease in sun scald damage.</li> <li>● increase in photosynthesis, nourishment in the plant is quick in action.</li> <li>● accelerating fruit juice forming, restraint of evaporation.</li> <li>● Not only mesophyll plump but also increasing coloring, Increase in sugar contents, taking a possibility to produce high quality crops.</li> <li>● After harvesting a time of preservation, decrease in secretion of ethylene gas with improving hypotonic. (alleviation of decay)</li> </ul>

# The application method of water-soluble silicate Citrus

## Citrus

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>● <b>The existing orchard</b> until the Early in Nov.- Mar, around of a fruit tree centered, one bottle per 7a to soil application.</li> <li>● <b>Preparation field</b> Before 2-3years of planting(every fall or spring), After overall application one bottle per 7a, tasking the plowing.</li> </ul>	<ul style="list-style-type: none"> <li>● Only just one, 1 year lasting effect</li> <li>● Improvement of soil fertility, neutralization of acid soil.</li> <li>● Cleansing soil water, prevent from infection.</li> <li>● Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li>● when you plant a fruit tree, water enough with 1,500 times liquid, rooting and early growth stage is active.(13cc per water 20L)</li> <li>● An outbreak of mold, spray once or twice with 1,000-1,500 times liquid.(13-20cc per water 20L)</li> <li>● 10-15 days of putting bud before and after, drench with 1,500 times liquid (13cc per 20L water)</li> </ul>	<ul style="list-style-type: none"> <li>● Promoting of new root</li> <li>● more than 2,000 minute vibrations for 1 minute, improving tolerance of cold damage and frost.</li> <li>● prevention of physiology stress and increase in rate of fertilization.</li> <li>● prevention of deformation and increase in fruit set.</li> <li>● Being strong of plant tissue, decrease in fruit drop.</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li>● 10days of flowering before and after, leaf spray with 1,500 times liquid (13cc per water 20L)</li> <li>● After 10days of fruit set, an interval of 15-20days, leaf spray or drench with 1,000 times liquid before finishing 20days. (20cc per water 20L).</li> <li>● Before and after 5days of rainy season, leaf spray with 1,000 times liquid (Improving effect together with calcium)</li> <li>● After harvesting, watering with 1,000 times liquid, increase in amount of nourishment.(20cc per water 20L)</li> </ul> <p>※Do not spray during the time of fertilization.</p>	<ul style="list-style-type: none"> <li>● increase in disease tolerance and insect resistance</li> <li>● prevention and decrease in sun scald damage.</li> <li>● increase in photosynthesis, nourishment in the plant is quick in action.</li> <li>● Decrease in and prevention of the separated phenomenon between fruit and peel</li> <li>● Not only mesophyll plump but also increasing coloring, Increase in sugar contents, taking a possibility to produce high quality crops.</li> <li>● After harvesting a time of preservation, decrease in secretion of ethylene gas with improving hypotonic. (alleviation of decay)</li> </ul>



# The application method of water-soluble silicate Ginseng/Tobacco

## Ginseng

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>In the preparation field, overall application to soil with one bottle per 7a then plowing deeply.(increase in effect, using a rice straw and microbe together.)</li> <li>After falling 1-6 years age of leaf(the end of nov.-dec.) application on the rice straw with one bottle per 7a</li> </ul>	<ul style="list-style-type: none"> <li>Only just one, 1 year lasting effect</li> <li>Improvement of soil fertility, neutralization of acid soil.</li> <li>Cleansing soil water, prevent from infection.</li> <li>Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li>Days earlier, a Ginseng seeding and existing field, After thawing, application with 2000 times liquid to more than 80% of growing bud</li> <li>In expectation of fungal disease, application with 1,000-2,000 times liquid once or twice. (10-20cc per water 20L)</li> </ul>	<ul style="list-style-type: none"> <li>Decrease in generation of germs, virus and mold.</li> <li>Both leaf and stem grow healthy and prevention, recover of physiological disorder</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li>After rooting or evenly opened a bud, application with 1,500times liquid first round (13cc per water 20L) and then application with 1,000 times liquid by the end of drying at 15-20 intervals(20cc per water 20L)</li> </ul>	<ul style="list-style-type: none"> <li>Increase in disease tolerance</li> <li>For preventing form aging of leaf, improvement of hypertrophy</li> </ul>

## Tobacco

	Application season and methods	characteristic
Ok-Kwang granule	<ul style="list-style-type: none"> <li>Before 2-3 months of planting, After overall application one bottle per 7a, then plowing.</li> </ul>	<ul style="list-style-type: none"> <li>Only just one, 1 year lasting effect</li> <li>Improvement of soil fertility, neutralization of acid soil.</li> <li>Cleansing soil water, prevent from infection.</li> <li>Repeated cultivation, prevention of salty disorder and alleviation.</li> </ul>
Ok-Kwang Gold	<ul style="list-style-type: none"> <li>Before 7-10 days of planting, application with 2,000 times liquid. (10cc per water 20L)</li> <li>In expectation of fungal disease, application with 1,000-2,000 times liquid once or twice.(10-20cc per water 20L)</li> </ul>	<ul style="list-style-type: none"> <li>Increase in mesophyll hypertrophy.</li> <li>Evenly absorption of nutrient, for photosynthesis and carbon assimilation</li> </ul>
Ok-Kwang liquid	<ul style="list-style-type: none"> <li>During the planting, application with 1,500 times instead of normal water (13cc per water 20L)</li> <li>After 15-20 days of rootage, 15-20 intervals, application with 1,000 times liquid before 20days.(20cc per water 20L)</li> </ul>	<ul style="list-style-type: none"> <li>Prevention of insects and decrease in nature damage.</li> <li>For adjusting of nitrogen suction, revelation of local color.</li> <li>Increase in quantity and improvement in quality.</li> </ul>

# An experiment in China of water-soluble silicate 1.

## ○ The result of research at processing plant about Tianbohuliang-rice at Huinan xian in Jilin-sheng

1. An experiment station : A processing plant Tianbohuliang-rice, Huinan-xian, Jilin-sheng
2. Address : Jilin-sheng, Huinan xian, Huinan zhen, Dongsheng cun
3. A responsible person : Wu, bing jian
4. We usually deal with producing a organic food and processing industry.
5. We make a constant of organic food and make progress research, development and production. Since then, I have known that the KoSi-Bio's silicate products have a excellent effect of producing a chemical-free and green vegetables, also, we made an experiment in a self-field.
6. Area under cultivation :  $5 (666.7 * 5 = 333.5 \text{ square meters})$
7. Based on characteristic of product and the way of use, Ok-kwang granule of application time is suitable after melting a soil, Feb, or Mar, but we missed a application time. Detailed date of application is shown below.
  - A soil conditioner : April 13th
  - A growth conditioner : the first : May 10th, the second : May 30th
8. As a result of experimental farm and analysis, the region experienced relatively large drought in 2007 and every rice seriously run short of water. Rice of neighbored lands were influenced by growth keenly. In comparison with them, an experimental farm wasn't almost damaged by drought or gained a increase in harvest.
  - (1) Average output of compared area : 587kg
  - (2) Average output of experimental farm : 642kg※ Calculate upon average output, increase in 10%
9. The sample of experimental farm was sent to continue check to quality center.
10. conclusion
  - We reached a goal thanks to KoSi-Bio items

2008. 1. 03.

A processing plant Tianbohuliang-rice, Huinan-xian, Jilin-sheng

Wu, bing jian

# An experiment in China of water-soluble silicate 2.

## ○ The result of research at Liaoning-sheng, Xinmin shi, Hotai zhen agricultural techniques supply center.

1. An experiment station : Liaoning-sheng, Xinmin shi, Hotai zhen agricultural techniques supply center.
2. An experiment station : Liaoning-sheng, Xinmin shi, Hotai zhen
3. Person in charge of experiment : Go, gui lun, Kang, zhen ji
4. Supplying fertilizer experiment - water-soluble silicate(Ok-kwang granule) : soil conditioner  
- water-soluble silicate(Ok-kwang liquid) : Growth conditioner
5. Crop experiment - cultured product and race : (rice field)rice
6. Experiment methods
  - Seedling raising stage : Missing a time of application.
  - Land of cultivation(rice field, patch) - Ok-kwang granule : soil conditioner : June 10th, 2007  
- Ok-kwang liquid : growth conditioner : July 15th, 2007  
- Ok-kwang liquid : growth conditioner : July 30th, 2007 } All three times
  - Land of cultivation planning - Compare with experiment area and corresponding array  
- Respective land size is 667 square meters, total 5 area, 3333.5 square meters.

### 7. Research and yield result of a growth process

Experiment area using the water-soluble silicate is much healthier, than compared area. In addition, by applying it, we accomplished a goal of strong and elastic stem, high rate of carbon and nitrogen, as well as preventing insects, pathogene, standing rain and wind.

#### ● Result of farmhouse experiment ●

Farmhouse	The yield of experiment per 1畝	Compared filed	The increased yield	%
Ko, ok-mun	661	610	51	8.4
Ko, ok-ryung	656	608	48	7.9
Lee, heung-wha	649	600	49	8.2
Wang, in-cheon	653	605	48	8.0
Wang, yang	650	600	50	8.3
The total	3269	3023	246	-
Average	653	604	49	8.1

### 8. Consideration

As a result of experiment, Our area is running short of silicate to the soil and crop. The participants have the desired effect about KoSi-Bio products, that increase a yield, prevent a disease, and promote a growth more than was used for fertilizer. So, We will attain our goal, which continually will use our products to increase a yield of crop. Besides, We will exactly supply and extensively show a good example to make a experiment according to the experimental stage.

2007. 12. 8.

Liaoning-sheng, Xinmin shi, Hotai zhen agricultural techniques supply center.

Go, gui lun



Healthy crops · Sound food · smile farmer

Well-being silicate  
agricultural methods



Start with  
the Ok-Kwang!!