

**TECHNICAL
DATA SHEET**

CHITOSAN

**PURE CHITOSAN
OLIGOSACCHARIDE**

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Pure Chitosan Oligosaccharide

PURE CHITOSAN OLIGOSACCHARIDE

Properties			
Color	Light Brown	Water Solubility	Completely
Form	Powder	Moisture	≤10%
Odor	Characteristic	PH Value	5~7
Deacetylation	≥95%	Molecular Weight	<3000(90% ≤1000DA)

GENERAL INFORMATION

Chitosan oligosaccharide (COS), obtained through the degradation of chitosan using specialized biological enzyme technology, has a degree of polymerization ranging from 2 to 20 and a molecular weight of ≤3000Da. Highly soluble in water and easily absorbed by organisms, this low molecular weight product offers exceptional functional effects and high biological activity. chitosan oligosaccharide has a molecular weight range of 90% within 1000Da,ensuring superior quality. COS can be used as natural fungicide, fresh keeping, and organic fertilizer.

Chitosan oligosaccharide is a versatile tool in agricultural production. It not only supports healthy crop growth and robust plant development with enhancedphotosynthesis but also demonstrates significant effects in stress, disease, and insect pest resistance, leading to a notable increase in income stability. Its wide-ranging applications include serving as a natural fungicide for plant disease control, preserving fruits product freshness, and acting as an organic fertilizer to promote plant growth and vitality. Its easy absorption and high biological activity make it a valuable asset in these diverse applications.

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Chitosan oligosaccharide is the only positively charged cationic basic aminolygosaccharide in nature. It has good water solubility, is easily absorbed and utilized by organisms, and has good environmental compatibility.

Chitosan oligosaccharide belong to a type of plant immune inducers (also known as plant vaccines). They stimulate the plant's own immune response to confer systemic resistance. In terms of the antiviral effect of oligosaccharides, indoor testing results have shown that they exhibit good activity against tobacco mosaic virus. They not only inhibit the early colonization, proliferation, and spread of the virus, but also induce tobacco plants to produce pathogenesis-related proteins. Furthermore, they also have the ability to inactivate virus particles outside the body, thus inhibiting the long-distance movement of the virus within the plant.

The field trial results for virus disease control showed that chitosan has a relatively significant effect in **controlling virus diseases** in crops such as tobacco, tomato, capsicum, monk fruit, and apple. The efficacy of chitosan varies depending on the concentration and dosage used, with effectiveness ranging from 51.6% to 97.6%.

In the application of field **anti-virus disease**, it is recommended to dilute the use of products with 2% chitosan oligosaccharide content to 300 times, and the use of products with 5% chitosan oligosaccharide content to 750 times. For the prevention and control of viral diseases, it is recommended to spray before or at the early stage of disease of crops, continuous spraying 3 times, with an interval of 7~10d.

In the application of field **antifungal diseases**, chitosan oligosaccharides can be used alone in the early stage of disease occurrence, and it is recommended to mix chito-oligosaccharides with corresponding targeted drugs in the middle and late stages of disease occurrence, and appropriately reduce the amount of pesticides, and the number of applications is not less than 2 times.

In the application of **field control nematodes**, if the upper crop nematode occurs mildly, chitosan oligosaccharides can be used alone, if the upper crop nematode occurs moderate to severe, chito-oligosaccharide mixed with chemical thread killer can be reduced on the basis of the recommended amount by 1 / 3 ~ 1 / 2 times and applied 1 ~ 2 times.

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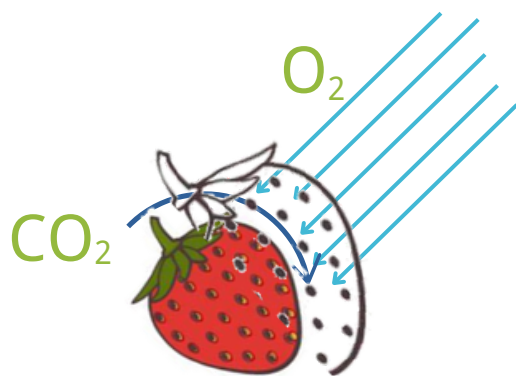
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The chitosan oligosaccharide in the fruit has a **certain control effect on the root-knot nematodes** of cucumber, cantaloupe and citrus crops, and the combination with thiazolophosphine and matrine can significantly improve the control effect of nematodes

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Chitosan oligosaccharides can form a **protective film** on the surface of strawberry fruit, this membrane allows oxygen to pass through. Carbon dioxide and water cannot pass through, so that the carbon dioxide produced by strawberry respiration accumulates in large quantities in the membrane

The environment with high carbon dioxide and low oxygen concentration can inhibit the respiration of strawberries, prevent the degradation of respiratory substrates such as soluble sugars, reduce the loss of VC in strawberries, inhibit the transpiration of strawberries, and reduce the decay caused by pathogenic bacteria. These have promoted the extension of the storage period of strawberries and achieved the purpose of preservation.



GENERAL GUIDANCE

Root irrigation, drip irrigation: 750g ~ 1500g/Ha;

Foliar Spray: dilute rates: 1:8 000~10 000;

Seed soaking: diluted 12 000-15 000 times;

SHELF LIFE:

36 months

PACKAGING

10Kg, 20Kg, 25Kg Paper carton/drum

STORAGE

Dry, cool, direct sun light proof, moisture proof warehouse