

## FAQ's - ORCON

### 1. What is ORCON?

ORCON is an organic formula for management of bacterial and viral diseases, which provides resistance to a broad spectrum of viral and bacterial strains. Stimulates the inhibition of all main stages in virus and bacterial infection. This unique formula effectively manages Leaf curl virus, Yellow mosaic virus etc. on Chillies, Okra, Tomato, Papaya, Cucurbits, Cotton, Spices etc. also manages bacterial disease like Leaf Blight, Leaf Spot, Cankers etc. in Tomato, Potato, Rice, Carrot, Cucurbits etc.

### 2. What is the composition of ORCON?

Eugenol derived from Clove oil	01.00% w/v (Min.)
Silicone Surfactant	02.00% v/v (Max.)
Potassium Soap	97.00% v/v (Max.)
Total:	100.00%

### 3. Is this product available in powder form or liquid form?

ORCON is available in both powder and liquid forms.

### 4. What is the dosage of ORCON?

2 ml / 2 gm per litre of water.

### 5. How should I mix or apply this product?

Mix the recommended quantity (2 ml per Lit. of water) thoroughly in sufficient amount of water & spray on both sides of the leaves / affected areas.

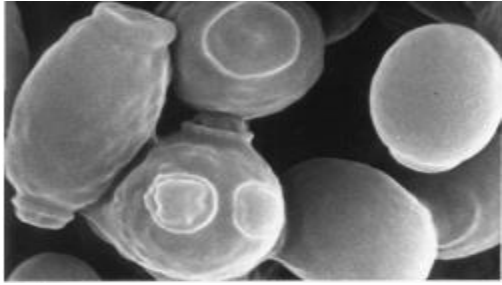
### 6. What is the application method of ORCON?

Foliar spray; As a preventive you can spray it. As it is organic input, there will not be any side effect.

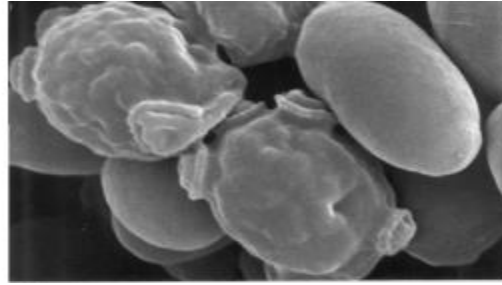
### 7. What is the mode of action of ORCON as anti-bacterial and anti-viral?

ORCON - Mode of Action (AS ANTI-BACTERIAL)

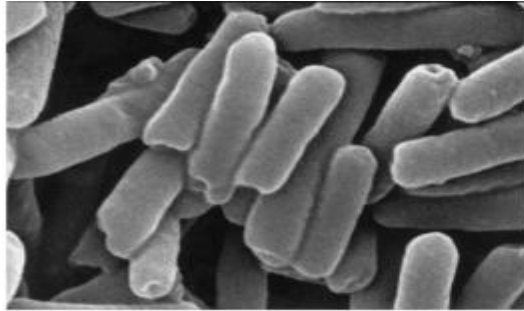
Eugenol in clove oil has both anti-bacterial and bacteriostatic action. It induces the cell lysis by the leakage of protein and lipid contents thus damaging the cell wall and cell membrane of the both Gram positive and Gram negative bacteria. Hydrophobicity of Eugenol enables to partition the lipids of the bacterial cell membrane and mitochondria, thus disturbing the cell structures and rendering them more permeable for its anti-bacterial action. Eugenol denatures proteins and reacts with cell membrane phospholipids changing their permeability and inhibiting a great number of Gram-negative and Gram-positive bacteria. Thus, primary mechanism of action of eugenol is disruption of the cytoplasmic membrane, which increases its non-specific permeability allowing Eugenol to be dissolved in the membrane and accumulate with consequent damage to the membrane.



Bacterial cells – without treatment



Bacterial cells – after Eugenol treatment



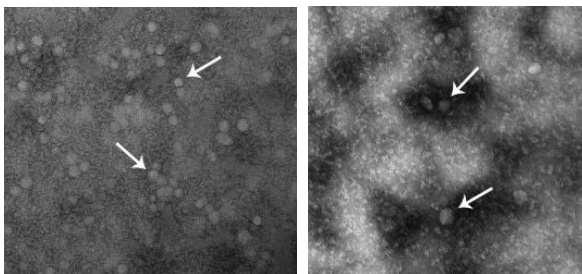
Bacterial cells – without treatment



Bacterial cells – after Eugenol treatment

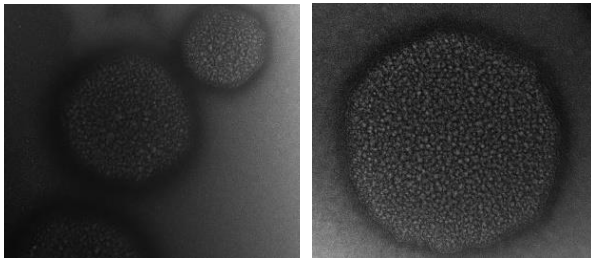
#### ORCON - Mode of Action (AS ANTI-VIRAL)

Eugenol directly inactivates the free-virus particles and interferes with virion envelope structures required for entry into host cells. Eugenol ameliorates the oxidative stress and inhibits the expressions of autophagic genes finally impairing the viral strain replication. This results in causing nonspecific and nonproductive binding to host cells preventing a successful infection. Eugenol may act directly upon the virus envelope inhibiting post-binding entry of the virus into cells. A slow buildup of Eugenol on the surface of the capsid over time leads to greater reductions in cell culture infectivity.



Untreated Virus Particles

After treatment



Virus particles enlarged after treatment with increased textur

Eugenol from Clove Oil binds directly to the virus capsid. This coating leads to the virus binding nonspecifically to host cells and to the plastic of the cell culture plates and also prevents the specific adsorption of the virus to host cell receptors that would lead to successful infection. The virus particles get greatly enlarged following treatment, possibly due to such a buildup of Eugenol coating on the surfaces.

**8. Does ORCON have any solubility issues?**

Having processed from natural ingredients and emulsified with high quality Potassium Salt of Fatty Acids (Potassium Soap), the products do not have any solubility issues. Only in case the water quality is not good – too hard water or highly alkaline water, there might be problem with complete solubility. In such cases use a surfactant like Wespa 80 at the dosage of 0.25-0.50 ml per liter of spray solution will make the solution complete solubility.

**9. Is ORCON registered with CIB and can you provide Principal Certificate or O Form for selling these products?**

The ingredients used in our formulation are nature-derived and not listed in the Schedule of the Insecticide Act, 1968. The actives are not listed under the schedule to the Insecticide Act and therefore, are not be registered with CIB. As a result, Principal Certificate is not provided by the State. These ingredients are listed by OMRI as organic, considering non-toxicity and biodegradability. The ingredients in our formulations have been internationally approved and recommended by various bodies propagating organic agriculture. Based on the same, our products have been approved for use in Organic Production under the NPOP norms by IMO Control.

**10. When should ORCON be applied?**

As a preventive you can spray it. As it is organic input, there will not be any side effect.

**11. Does ORCON spray work in high temperatures?**

Temperatures exceeding 40°C could delay the activity of the spray. Therefore the spraying operation is always recommended to be carried out in the early morning.

**12. After spraying of ORCON, if it rains after two hours will the product sprayed remain on the plant or wash out?**

Post rains, any spray will have the tendency to wash out. In such conditions, it is advisable to use a high quality wetting and spreading agent (like Wespa 80) to maintain the longer contact of spray on the leaves,

**13. How long will the result of product sprayed on plants last?**

The spray will remain active for nearly a week as the ingredients are biodegradable in nature.

**14. How effective is Orcon on Leaf Curl?**

Orcon is highly effective on viral diseases like Leaf, Curl, Yellow Mosaic Virus as well as other bacterial diseases like bacterial spots, canker etc. While Orcon will not “undo” the damage done to the already curled or affected leaves, the new growth is healthy and disease free when applied at the recommended dosages.

**15. Does ORCON have phytotoxic effect?**

ORCON is made from purely natural ingredients and the dosage at which these are recommended have no phytotoxic effect. While the recommended dosages are from 2 ml/2gm per litre of water, even at 10-12 ml/gm per litre of water ORCON will not exhibit any phytotoxicity.

**16. Can ORCON mixed with other products before spraying?**

Compatibility of our formulations with other virucide and bactericide / agri-inputs depends on several factors like

- Alkalinity of water used for preparation of the spray
  - Amount of time the “mixture” is held before spraying
- While mixing of our products with following “ad-mixture” should be avoided:
- Sulphur-based, Copper-based, Zinc-based formulations
  - Organism-based formulations
  - Soluble fertilizers

It is always advisable to try a small sample for mixing any two formulations before farm-level application to ensure the physical stability and tolerance by plants.