



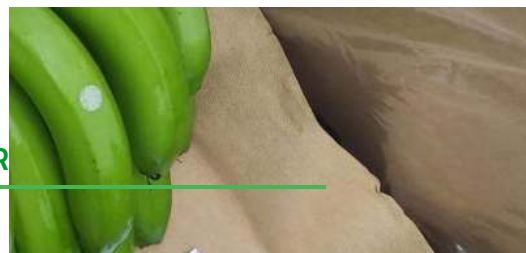
KIF VACUUM BAGS



KIF ETHYLENE SACHETS



KIF GERMINATION PAPER



It offers shelf life extension and controls Anthracnose during banana shipment and storage period

**EXTENDS LIFE UPTO 30 DAYS**

# The Ethylene Problem



## What is Ethylene Gas ?

Fresh Vegetables, Fruits & Flowers start to ripen after harvesting and during the ripening process release ethylene gas and water vapour. This ethylene gas when in the package increases the ripening rate of the fresh produce hence aggravating the ripening process resulting in faster rotting of the fresh produce. The gas and water vapour produced work as a catalyst to the ripening process which in turn causes faster spoilage and microbial damage.

## Effects Of Ethylene

- Accelerates Ripening.
- Loss of hardness and tenderness.
- Change in color from green to yellow.
- Change in Texture
- Causes Rotting by Pathological disorder Anthracnose
- Accelerates mould and fungal growth.
- Black spots on skin
- Skin abrasion and bruising.
- Starch to sugar conversion
- Overall loss of quality during storage and transport.

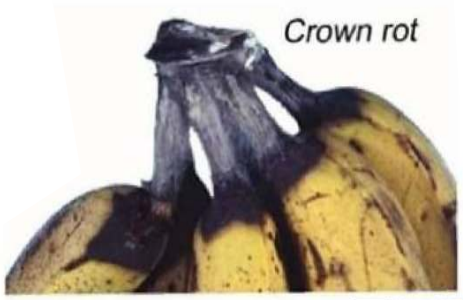


**EXTENDS LIFE UPTO 30 DAYS**

# PATHOLOGICAL DISEASES

## ANTHRACNOSE

A disease caused by *Colletrichum musae*, becomes evident as the bananas ripen, especially in wounds and skin splits.



## CROWN ROT

Disease Caused by *Colletrichum musae*, which attack the damaged & cut surface of the hands. .

Fungal infection starts at harvest but the first symptoms of crown rot appear only after packaging and shipping from producing countries to consuming countries.

The ethylene removal during transport delays the development of Anthracnose after the artificial ripening.



**EXTENDS LIFE UPTO 30 DAYS**



# KIF TECHNOLOGY



## Keep It Fresh Technology

Bananas are harvested mature-green and ripened upon arrival at destination markets. Banana quality is severely compromised if bananas produce moderate amounts of ethylene during transit. KIF sachets are the most effective way to inhibit harmful effects of ethylene gas. Sachets are filled with a special composition mixture of zeolite powder and potassium permanganate that causes ethylene & moisture absorption and simultaneous volatile bacterial inhibition (VBI). The use of sachets reduces the incidents of 'soft green', 'self-ripes' and rots/moulds, but after the ripening process, a more even ripening is noticeable as well"



**EXTENDS LIFE UPTO 30 DAYS**

# HOW TO USE



## Place the sachet

- 5 gram sachet in 12-15 kg box
- Reduces Ethylene Gas



## Interleave the Germination Paper

- 2 sheets in the box
- Simply place between the layers
- Absorbs moisture and water from bananas
- Prevents fungal growth



## Vacuum the bag

- Reduces O<sub>2</sub> in packaging
- Extends life
- Decreases respiration



EXTENDS LIFE UPTO 30 DAYS





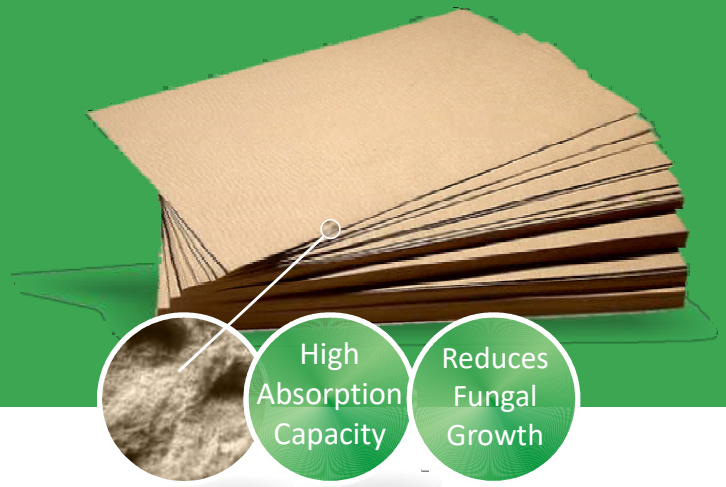
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Made from  
natural materials

Tests performed on various fresh fruits and vegetables shows that the produce kept in open started to rot in 3-5 days where as the ones in the KEEP-IT-FRESH bags were good even on the 10th - 15th day compared to the ones in generic plastic bag.



# KIF Germination Paper



Recyclable



Made from  
natural materials

Germination paper is a revolutionary product that allows the absorption of extra moisture and water that settles inside the box of produce. The paper has very high absorption capacity of up to 200% Water.

During the normal course of storage of fresh produce water is released from the fruits and vegetables. This water tends to settle at the bottom of the packaging and starts the growth of microbial's. To control any adverse effects of germs, fungus, dour or the new germination paper is effective to absorb extracts water and hence reduce the microbial growth in the packaging.

A lot of produce is packed and exported to various countries around the globe with Li times between 15 to 40 days. During this course of time they produce goes to various thermal shocks, natural respiration that releases the moisture in the packaging.

Excess water in the packaging leads to growth of fungus, microbes, bacteria is, mold and eventually leads to the deterioration of produce. This causes the produce to decay and be rendered useless for human consumption.

Keep it fresh germination paper is made from hundred percent recyclable paper that has stretch ability and very high puncture strength, elongation, absorption capacity. The paper can be recycled after usage and hence does not cause any harm to the environment and is recognized to be safe for contact with food and fresh produce.

## FEATURES

- Following features allow the germination paper to be ideal for use In fresh produce, vegetables, fruits
- 
- Lowers growth of fungus mould and odour.
- 
- 200% more absorption capacity than the weight of the paper.
- 
- High stretch ability and creeping of the paper allows more water to be absorbed in its core.
- 
- 100 percent recyclable paper.
- 
- Available in roll form, cut sheets, sheet on roll and invites from 2 inches to 40 inches.





# KIF Sachet



Recyclable



Made from  
natural materials

Fresh Vegetables, Fruits & Flowers post harvesting release ethylene gas and water vapour. The ethylene gas and water vapour produced work as a catalyst to the ripening process which in turn causes faster spoilage and microbial damage.

KIF sachets are the most effective way to inhibit weight loss, improve quality and shelf life. Sachets are filled with a special composition mixture of zeolite powder and potassium permanganate that causes ethylene & moisture absorption while simultaneously causing volatile bacterial inhibition (VBI).

Ethylene causes shattering, deterioration and ripening on the other hand excess moisture is likely to speed up decay and the development of mould and fungus either during the storage/transportation period or after removal from the packaging.

Keep It fresh Sachets can be easily placed with fresh fruits, vegetables and flowers. The sachets work in multiple ways to protect and extend shelf life of fresh produce.

Keep it fresh sachets contain ethylene absorbers in a breathable Tyvek & Dupont membrane that can work under high humidity conditions.

KIF Sachets are available in different gram sizes from 2, 5 and 10, gram according to customer & volumetric requirements.

