

# VALUE ADDITION IN PEPPER



# Presentation Overview

- ✓ Value Addition and the Farmer
- ✓ Value Addition and the Manufacturer
- ✓ The Future of Value Addition in Pepper



# Value Addition



## **FARMER**

Higher Yields, Protection from the vagaries of pest attacks and the weather, better returns per unit



## **MANUFACTURER/TRADER**

Better Profits, Building Brands and Business Value, Differentiating from competition.



## **CONSUMER**

Taste, health , Good Quality – (adulterant and contaminant free), convenience at affordable prices.

How does the farmer get more **'value'**?



# How does the farmer get more 'value'?

## Higher Yields

- ❖ High yielding, pest resistant seedlings
- ❖ Agricultural Inputs and their optimized use
- ❖ Prevention of post-harvest contamination

## The 'right' unit value

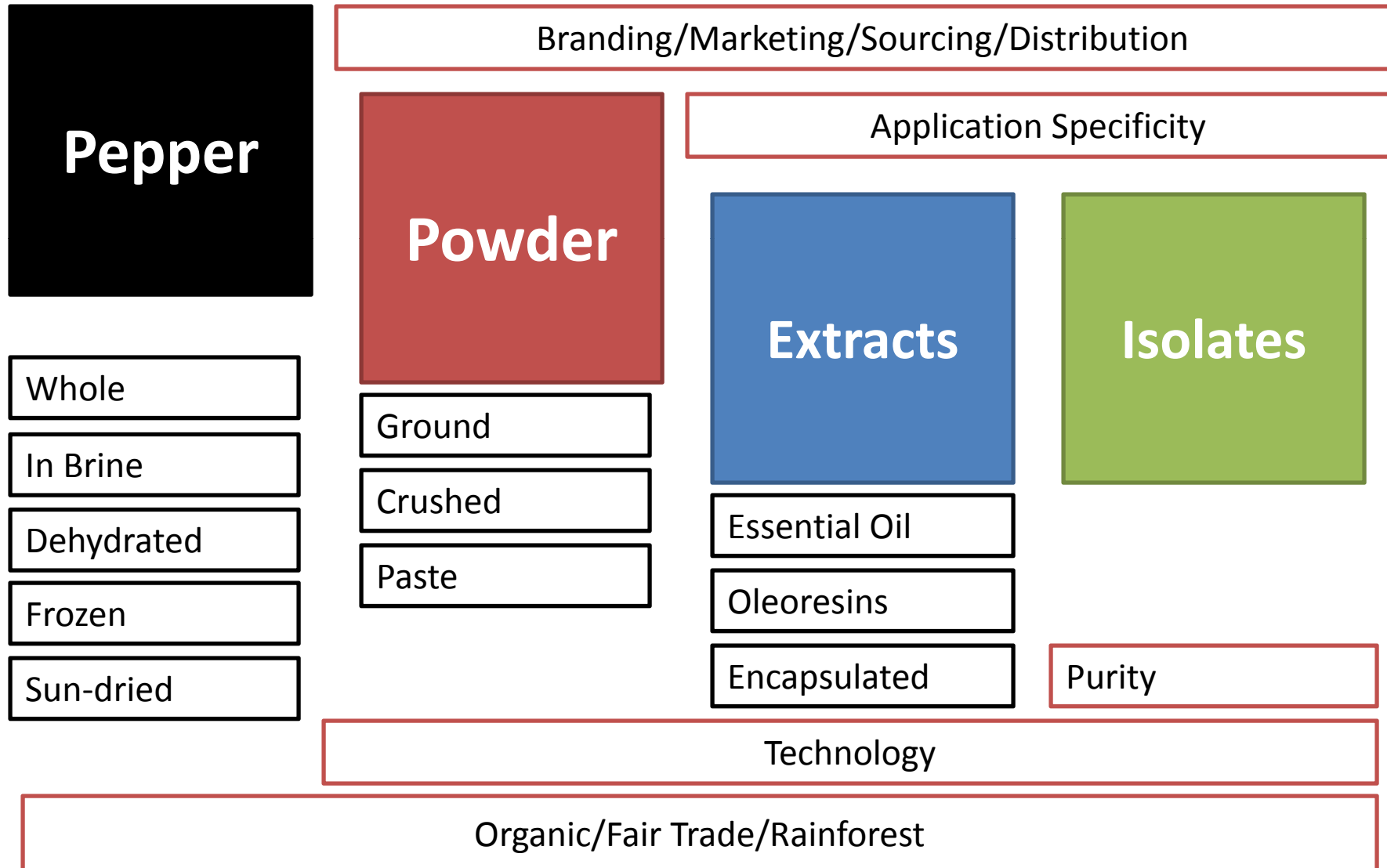
- ❖ Easy access to information
- ❖ Support channels of trade

# For the manufacturer

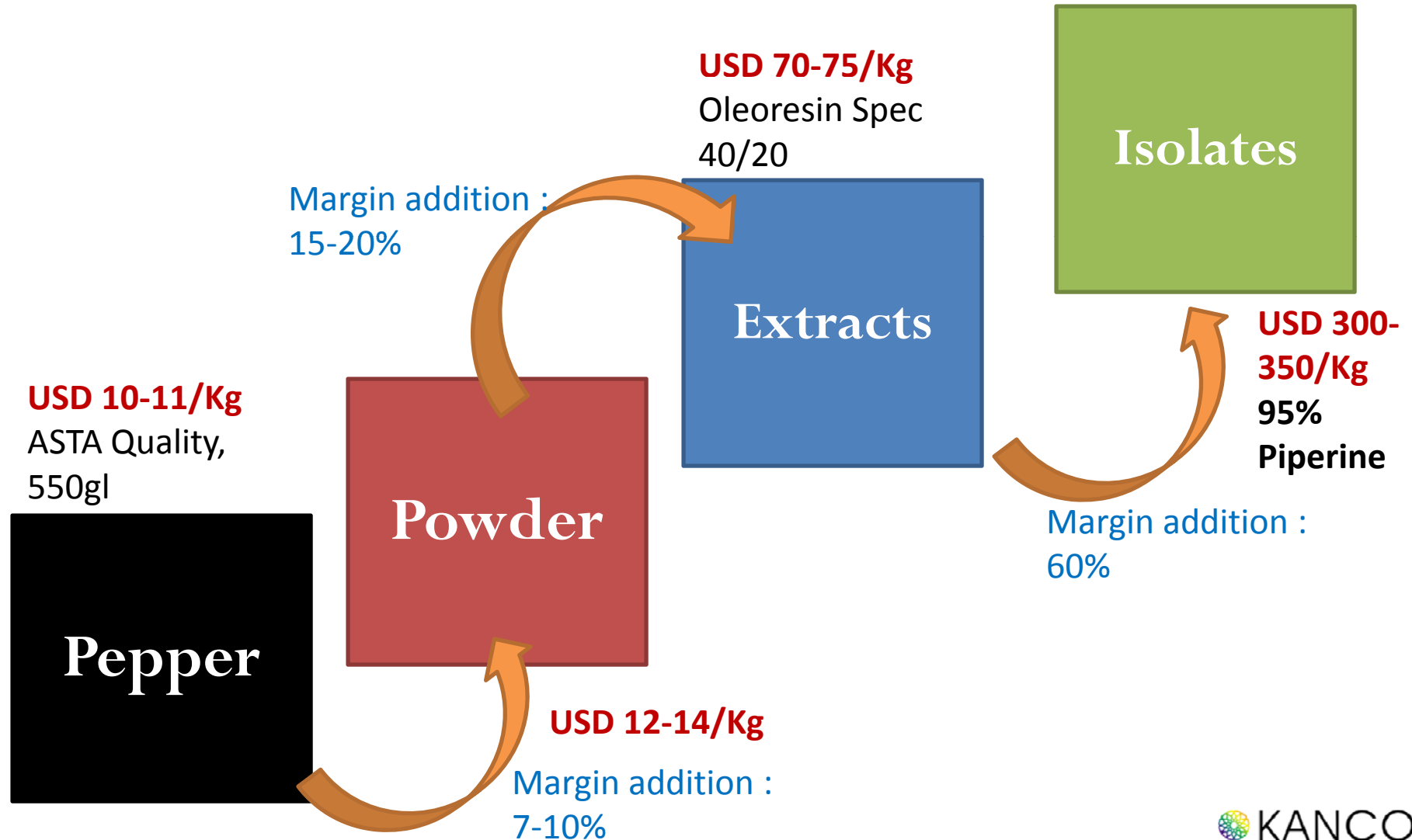


Kancor, Cochin

# Pepper – Stages of Value Addition

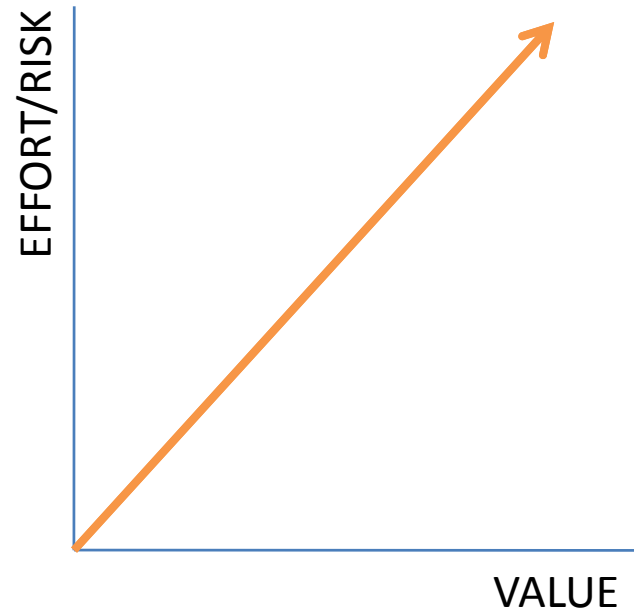


# Addition of **value** at different stages

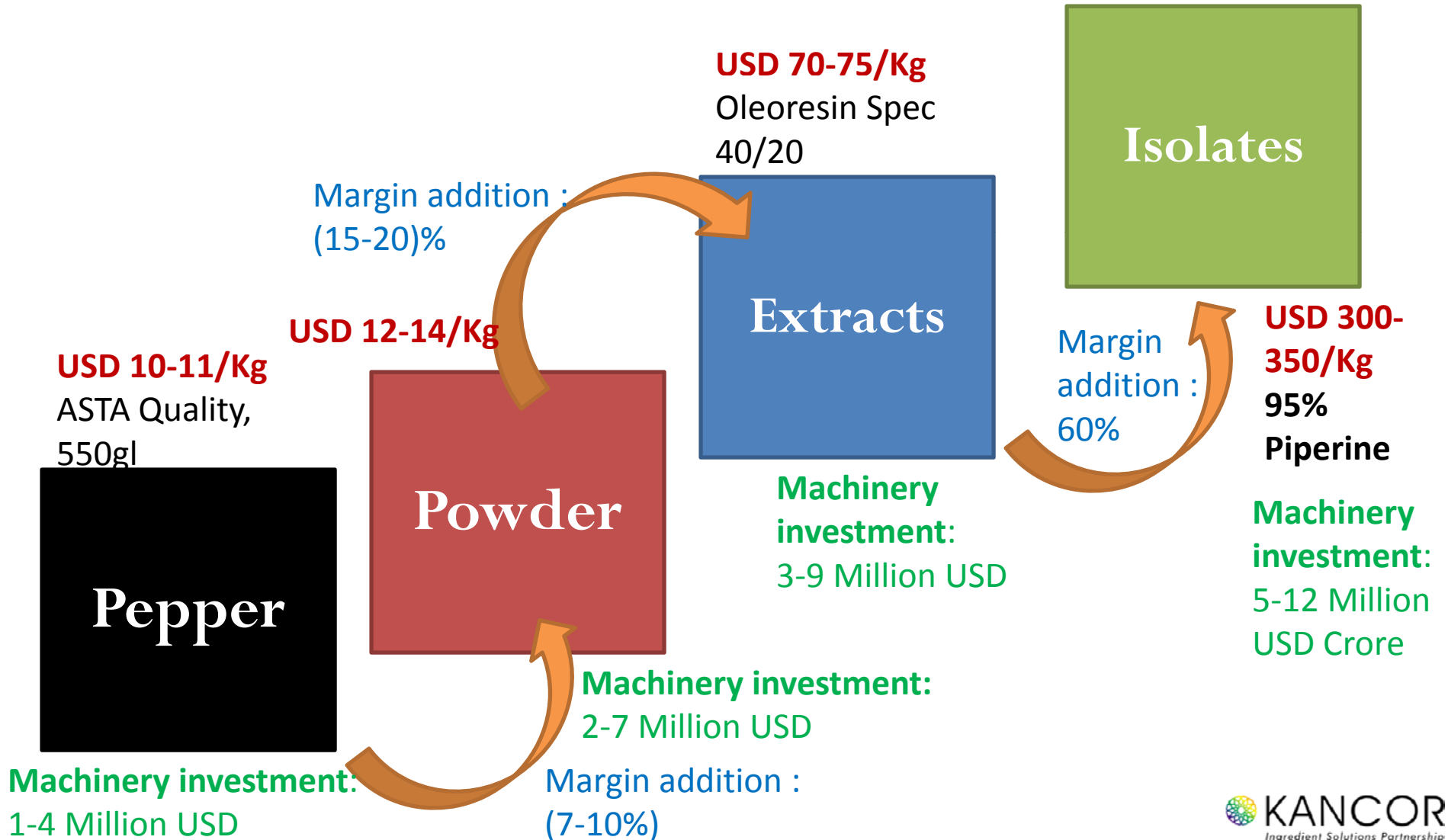


With the addition in value comes the proportional increase in effort and risk:

- Technology/IPR
- Manufacturing Infrastructure
- Marketing/Branding
- Technical Inputs
- Other Resources



# Addition of 'investment' at different stages



# Powder

## Manufacturing Process

- Drying, Foreign Matter Removal
- Steam/ETO Sterilization
- Blending

## Equipment

- Aspirator
- Garbling and Cleaning Equipment
- Sterilizers
- Hammer and Roller (Grinding) Mills
- Metal Detector
- Micro Filters



## Challenges

- ✓ Compliance with GMP and HACCP, and certifications such as Halal, Kosher, CTPAT etc.
- ✓ Adhering to strict quality limits : Variation in Color/Piperine Content, Granulation/VO Loss
- ✓ Salmonella and Other Pathogen risk
- ✓ Testing method variances
- ✓ Rejections at Ports/RASFF
- ✓ Competition from synthetic food ingredients
- ✓ Carrying of inventory/warehousing/intermediates

*These challenges apply at all stages of value addition.*

# Extracts

**Global Market Size (approx) :** 75-85 Million USD

**Opportunity :**

- Consumer Preference for Natural Flavors
- Health Benefit Claims on New Product Introductions
- High value by-products
- Use in an increased number of applications
- Beverages, Soup Powders, Confectionary, Curries, Noodles, Sauces, Canned meat,etc

**Product Advantages:**

- Reduced Microbiological Activity
- Uniformity in Flavour and Pungency
- Easy to Store and Transport
- Ease of usage/application

**Technology :** Solvent Extraction for Oleoresins, Steam Distillation for Essential Oils

**- Solvent Extraction v/s Carbon dioxide**

**Extraction** – The technology of extraction employed also has a say in the ‘value’ of the end product.

**Machinery :**

- Hammer type Disintegrators
- Vacuum Distillation Still
- Extractor
- Concentrator
- Blending Tank
- SS Storage Tank
- Filling and Packing Equipment
- Laboratory Equipments

**Challenges**

- Insensitive to price changes/time lag
- Regulatory, inventory, availability of RM



# Isolates

**Global Market Size (approx) :** 3 Million USD

## **OPPORTUNITY**

- Pharmaceutical and Nutraceutical Application
- Health Claims trend in new product introductions

## **Technology**

- Solvent Extraction
- Re-crystallization
- Filtration of piperine crystals under vacuum

## **Manufacturing Infrastructure**

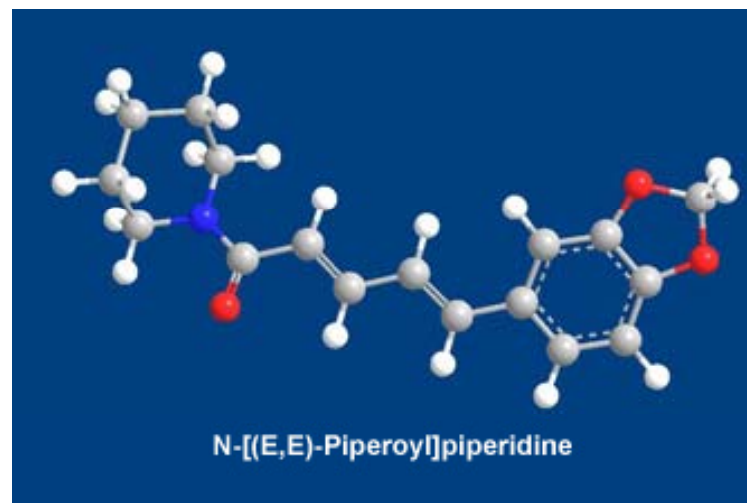
Same as in extracts + Nuch Filter

## **Major Health-related Benefits:**

- Increases bio-availability by enhancing the absorptive capabilities of the small intestine.
- Combats fatigue

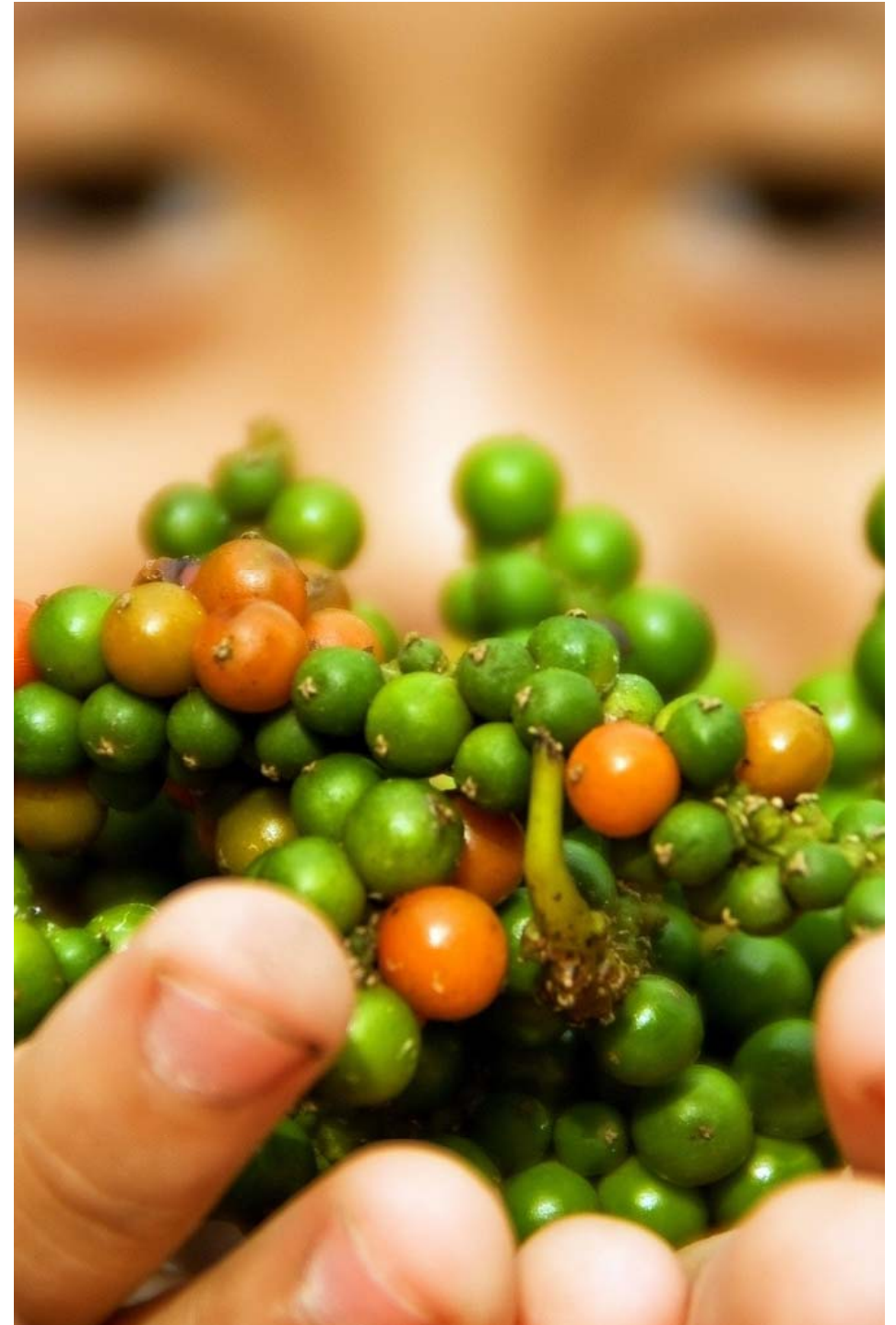
## **Challenges :**

- Regulatory Hassles
- Clinical Trails
- Development of delivery platform technologies (also considering **bio-availability**)



# The Future of **Pepper**

## Back to the **Roots**



# Issues



The challenges that one faces during the manufacturing and marketing of value added pepper products can be traced back to farm practices and the neglect of agriculture.

## INDUSTRY

- ✓ Insufficient Availability of Quality Raw Material
- ✓ Raw material Price Fluctuations and Supply Defaults when commodity price increases
- ✓ Rejection at Ports, RASFF
- ✓ Quality Issues : Low active ingredient content, Salmonella and other pathogen and heavy metal contamination.

## FARM

- ✓ Reduced areas of production, and lack of interest in traditional pepper growing areas.
- ✓ Small size of pepper land holdings
- ✓ Reducing Productivity and Yields
- ✓ Pepper vines are pest prone and affected by vagaries in climatic conditions
- ✓ Competition from more viable less effort crops like coffee, cocoa, Oil Palm and other activities like mining (Indonesia).
- ✓ Scientific research/Agro-technology do not reach the farms
- ✓ Cultivation of Low yielding varieties
- ✓ Higher cost of production - Rising Labor, fertilizer costs.
- ✓ Decreasing soil fertility
- ✓ Changing Climate and Crop patterns
- ✓ Increasing age of vines

# Back to the Roots

- **Easing the huge risk that the farmer faces.**
  - Cash support against warehouse stocks
  - Crop insurance
- **Passing on of best practices on the farm.**
  - Lower labor involvement for plucking pepper vines at lower heights , in countries other than India.
- **Bring research to the farms.**
  - Superior high yielding varieties
  - Pest/disease resistant hardier varieties to be introduced
- **More control to the farmer**
  - Pepper to be graded by the farmer



Let's revive our **pepper farms**, for  
value addition across all  
segments.





**Thank You ...**

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