

Single Banana

GEN TRIZ Case Study

GEN TRIZ Case Study: Single Banana - Background

- There are two technologies to banana supply:
 - Harvest ripe bananas and deliver them as is
 - Harvest unripe bananas, shipping them to a store, and stimulate ripening process artificially with special chemicals
- The first method is inexpensive and provides highest banana quality, but it is applicable only for local shipping
- The second method is applicable for long distance shipping, but it is more expensive and does not provide the best quality
- Project goal: To provide long distance shipping of ripe bananas?



GEN TRIZ Case Study: Single Banana – GEN TRIZ Tools: Function-Oriented Search

- Initial Problem:
 - How to provide long distance shipping of ripe bananas?
- Analysis:
 - Ripening process depends on concentration of CO₂ and O₂ around bananas
 - To control ripening process, it is necessary to limit circulation of CO₂, but allow circulation of O₂
- Initial Function:
 - To limit circulation of CO₂ while allowing circulation of O₂
- Generalized Function:
 - To control gas flows selectively
- Leading Area:
 - Pharmaceutical industry
- Found Technology:
 - Selectively permeable polymer films

GEN TRIZ Case Study: Single Banana - Solution: Selectively Permeable Polymer Film

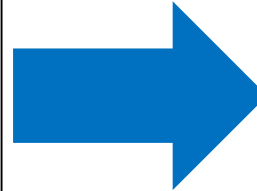
- Pharmaceutical industry had engineered plastics that regulate air flow in boxes.
- At packaging plants, workers hand-pick bananas having ideal size, color, shape and ripeness. The single bananas are laid on top of one another in boxes covered with a semi-permeable membrane that allows oxygen to pass through but controls the flow of carbon dioxide to delay ripening until the box is opened.
- This allows shops to sell bananas at the perfect stage of ripeness, that look absolutely yummy, and can sit on a retailer's shelf and not go mushy and ugly.



GEN TRIZ Case Study: Single Banana – Business Impact

New Product:

A new product was introduced to the market - Single Banana. The velocity of the supply chain was synchronized with the biological processes for the ripening of the fruit after harvesting. New equipment was developed for separating banana clusters into individual bananas



Business Impact:

New channels offer new profit potential. Single Banana is a non-commodity product with significantly higher profit margins. It allows to bring it to the market within the Snack Foods category

