



AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

Lecture 5\_ 25 April 2023

# Drying of tomato using a parabolic greenhouse solar dryer



Dr.PARIKA RUNGPICHAYAPICHET  
Department of Food Technology  
Faculty of Engineering and Industrial Technology  
Silpakorn University, Nakhon Pathom  
Thailand





AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

## Don Tum Community Enterprise (Maechuy)

- Produce fresh and dried cherry tomatoes (*Solanum lycopersicum var. cerasiforme*)
- Chairman : Mr.Prayong Wongsakul
- Location : Don Tum sub-district, Bang Len district, Nakhon Pathom province, Thailand

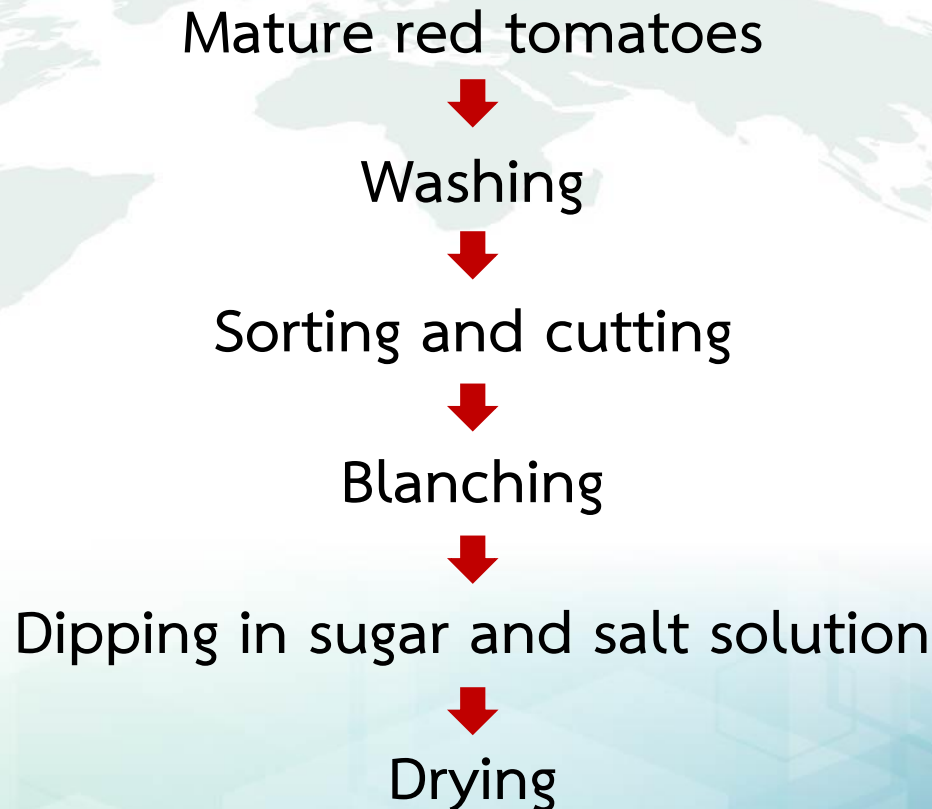




AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

# Osmotic drying of tomatoes in Thailand

## Process







AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

# Osmotic drying of tomatoes in Thailand

## Mature red tomatoes



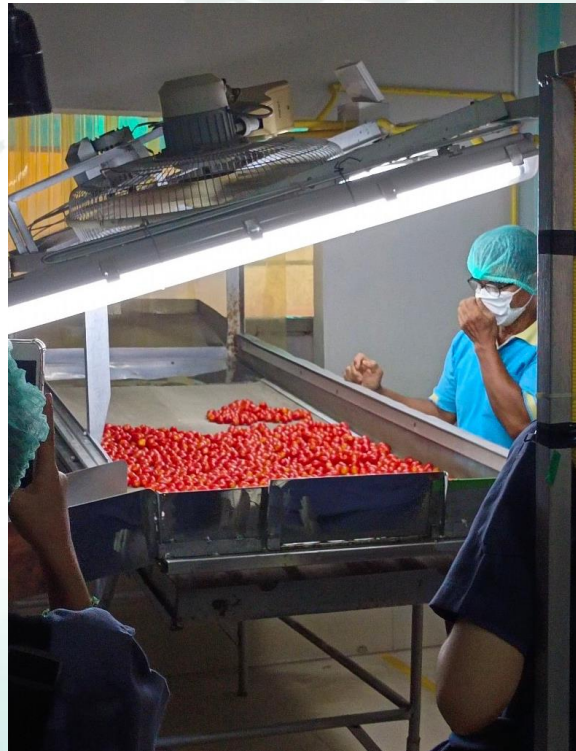




AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

# Osmotic drying of tomatoes in Thailand

## Washing and sorting







AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

# Osmotic drying of tomatoes in Thailand

## Cutting







AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

# Osmotic drying of tomatoes in Thailand

## Blanching and dip in sugar and salt solution



Blanching at 100°C for 10 mins



Dipping in sugar and salt solution for 2 days





AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

# Osmotic drying of tomatoes in Thailand

## Drying



Drying in a parabolic greenhouse solar dryer





AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

## Osmotic drying of tomatoes in Thailand



The osmotic tomato of the initial moisture content of 50% (wb) was reduced to the final moisture content of 12% (wb) in 4 days, compared to 7 days required by natural sun drying.







AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

# Changes of tomato during osmotic dehydration process and drying



Fresh tomato



Osmotic tomato



Dried tomato





AITC course 2023 : The application of a parabolic greenhouse solar dryer together with raw material preparation techniques to extend shelf-life and enhance quality of agricultural products

## Products of Don Tum Community Enterprise

