

Introduction

Tomato is one of the most important and most cultivated vegetables worldwide. With the many uses and nutritional value of tomato, it becomes an indispensable ingredient in man's diet. In the Philippines, Ilocos Norte is one of the major producers of tomato (11.7%), next to Bukidnon and Pangasinan (BAS, 2010).



Most of the farmers plant tomatoes at the same time during the dry season from November to January, hence the largest volume of fruits flock at the local markets from February to March making the price very low. Tomato storage is necessary during this time to regulate the supply in the market and to wait for a better price.

Many have tried storing tomatoes but only few were successful. Recent findings done at the Mariano Marcos State University revealed that the use of rice straw as a storage medium for tomato is very effective to prolong its shelf life. Rice straw is available and abundant in the locality.

The MMSU Tomato Storage Technology

Use *Ilocos Red* tomato variety



Stop irrigating the tomato plants 10 to 14 days before harvesting to prevent them from rotting easily

Harvest only green mature fruits preferably in the morning



Select fruits free from insect damage and bruises; pack 8 to 10 kg of tomatoes in paper box or plastic sack incorporated with newly harvested and dried rice straw, 2-3cm thick, placed in between layers of tomatoes



Store packed tomatoes in an open area, elevated using bamboo rack or *papag* to provide good ventilation
Maximum storage length is 2 months

It is effective



Paper box alone : 38.24% rotten fruits
Paper box with rice straw: 6.34% rotten fruits
Bamboo basket alone : 34.71% rotten fruits
Bamboo basket with rice straw: 16.25% rotten fruits
Plastic sack alone : 14.78% rotten fruits
Plastic sack with rice straw: 5.10% rotten fruits

It is profitable

Cost and return analysis in storing one tomato with rice straw

ITEM	Length of Storage (days)								
	15	30	45	60	67	75	82	90	
Cost of 1.0 ton tomatoes @P5/kg	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	
Paper box	300	300	300	300	300	300	300	300	
Rice straw (cost of hauling)	200	200	200	200	200	200	200	200	
Labor	400	400	400	400	400	400	400	400	
Sub-total	5,900	5,900	5,900	5,900	5,900	5,900	5,900	5,900	
% Recovery	97.7	94.2	86.8	80.3	59.7	21.3	5.8	1.1	
Fruits left (kg)	977	942	868	803	597	213	58	11	
Actual market price	10	15	10	15	20	25	25	25	
Gross Income (Php)	9,770	14,130	8,680	12,045	11,940	5,325	1,450	275	
Net Income (Php)	3,870	8,230	2,780	6,145	6,040	-575	-4,450	-5,625	

It is profitable to store tomatoes until 67 days

It is adoptable



The technology is easy to follow

Dissemination of the technology



Farmers and researchers who attended the seminar on the tomato storage technology



Farmers showing interest and attention during the seminar

Published by:

Research and Development Directorate
Mariano Marcos State University
City of Batac , 2906, Ilocos Norte, Philippines
November 2014

Source of information

Project Title:

POST HARVEST TECHNOLOGY FOR MAJOR
VEGETABLE CROPS IN THE ILOCOS

Researchers:

Maura Luisa S. Gabriel
Marissa I. Atis
Aleta E. Dumaoal
Zenaida H. Esteban

Implementing agency:

MARIANO MARCOS STATE UNIVERSITY
City of Batac, Ilocos Norte

Source of Funds:

MARIANO MARCOS STATE UNIVERSITY
City of Batac , Ilocos Norte

For more information:

Maura Luisa S. Gabriel
College of Agriculture, Food and Sustainable
Development
Mariano Marcos State University
Batac, 2906 Ilocos Norte
Tel No. (077) 792-2563, 792-3131
Telefax No. (077) 792-2547
Email: rddirectorate@mmsu.edu.ph

Rice Straw :

Storage Medium in the **MMSU** Tomato Storage Technology

Maura Luisa S. Gabriel, Marissa I. Atis,
Aleta E. Dumaoal and Zenaida H. Esteban



RESEARCH AND DEVELOPMENT DIRECTORATE
Mariano Marcos State University
City of Batac, 2906 Ilocos Norte
Philippines
November 2014