

**REPORT ON TRAINING OF TRAINERS ON HANDLING
POSTHARVEST LOSSES OF SELECTED FRUITS IN SEASON
(WATERMELON AND MANGOES) HELD ON 16TH & 17TH JULY
AT NASCO HOTEL- KOFORIDUA, GHANA.**



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1.0 Executive Summary

The Modernizing Agriculture in Ghana (MAG) Project 2019 is geared towards impact measurement and capacity building across the districts and regions of Ghana. As part of the project, a workshop was organized by the Directorate of Agricultural Extension Services (DAES) of Ministry of Food and Agriculture (MoFA) in collaboration with the Council for Scientific and Industrial Research (CSIR)-Food Research Institute on training of trainers on reducing postharvest losses of some selected fruits (watermelon and mangoes) in season. The workshop was done to explore the adoption of new technologies within the agriculture sector on handling postharvest management of some fruits in Ghana. This was held at Nasco Hotel in Koforidua, Eastern Region on the 16th to 17th July, 2019. A total of twenty four (24) participants comprising mainly extension officers and some selected lead farmers were drawn from Women in Agricultural Development (WIAD) and DAES of the Ministry of Food and Agriculture (MOFA). Fifteen (15) participants were males and nine (9) were females. Twenty (20) of the participants were Agriculture extension officers from DAES from MOFA and the remaining four (4) from WIAD.

The welcome address was given by Mr. Henry Kobina Crenstil, Eastern Regional Director of MOFA started off the day by reinforcing the commitment of Ministry of Food and Agriculture (MOFA) and Council for Scientific and Industrial Research (CSIR) in improving productivity and improve incomes through the adoption of new innovations within the agriculture sector. He explained the need for field officers to be equipped with the requisite knowledge and skills to effectively train farmers in the agriculture sector across the districts and regions of Ghana.

The overall objective of the workshop was to train field officers on how to properly handle postharvest losses of some selected fruits in season. Specifically, key concepts of postharvest management of fruits were defined, techniques involve in fruit juice processing were established and participants were equipped to transfer acquired skills and knowledge to farmers. The workshop provided participants the experience and tools for effective management of postharvest losses of some selected fruits in Ghana. Hands-on training and practical sessions were adapted to involve all participants of the workshop. Topics including Basics of food processing, Importance of Food Preservation, Processing of fruit juice, Food safety, Food packaging, and Drying of Fruits (mangoes) were extensively discussed.

Participants and facilitators envisaged the following as the expectations of the workshop; understand basic principles of food processing, understand the importance of food preservation, be equipped with techniques and principles of processing of fruit juices, understand and apply the basic principles of food safety and be equipped with techniques of food packaging.

Dr. Charlotte Oduro-Yeboah, the CSIR-FRI MAG focal person took the participants through the basics of food processing and importance of food preservation. Lectures on food safety and packaging were done by Mr. Papa Toah Akonor shortly after the first presentation. Practical sections on processing of juice was observed after lunch. The second day's activity was chiefly centred on a lecture drying of mangoes by Dr. Charlotte Oduro-Yeboah. There was an evaluation and question time where participants took turns to ask general questions about all topics discussed so far. These questions and concerns were duly addressed by facilitators and organizers respectively. Shortly after snack break, participants were taken through practical sessions on processing of watermelon and pineapple juices. This was followed by lunch break from 3:00 to 3:40 pm. The workshop was officially brought to an end with closing remark by Ms. Prospera Anku 4:05 pm.

1.1 Background

As part of the Modernizing Agriculture in Ghana (MAG) Project, the Directorate of Agricultural Extension Services (DAES) of Ministry of Food and Agriculture (MoFA) in collaboration with the Council for Scientific and Industrial Research (CSIR) organized a Training of Trainers (ToT) sessions to explore the adoption of new technologies within the agriculture sector on handling postharvest management of some selected fruits (watermelon and mangoes) in Ghana. The workshop was held at Nasco Hotel in Koforidua, Eastern region.

Registration of participants was done by the MOFA-DAES secretariat from 8:30 to 9:00 am. The workshop was officially opened on the 16th of July, 2019 with a prayer said by Ms. Prospera Anku, the Deputy Director of Directorate of Agricultural Extension Services (DAES) at 9:05 am. Following the opening prayer session, the Eastern Regional Director of MOFA was invited by Ms. Prospera Anku to deliver the welcome address.

1.2 Welcome Address – Eastern Regional Director of MOFA

Mr. Henry Kobina Crenstil started off the day by reinforcing the commitment of Ministry of Food and Agriculture (MOFA) and Council for Scientific and Industrial Research (CSIR) in improving productivity and improve incomes through the adoption of new innovations within the agriculture sector. He emphasized that while these interventions are put in place, the nation stands a chance of experiencing increased demand for employment. He further added that the workshop is expected to ensure that field officers are equipped with the requisite knowledge and skills to effectively backstop within the Regions and the Districts. He expressed confidence in the participants to be agents of change.

1.3 Training Facilitators

Facilitators and organizers of the training programme were duly introduced to the participants shortly after the welcome address by Mr. Henry Kobina Crenstil. The participants were also introduced to the facilitators and organizers. The facilitators for the training programme were as follows:

1. Prof. Joe Manu, Technical Specialist, CSIR
2. Prof. Paa-Nii T. Johnson, Technical consultant, CSIR

3. Mr. Emmanuel A. Odame, Head of Field Service Unit, DAES/MOFA
4. Mr. Henry Kobina Crenstil, Eastern Regional Director of MOFA
5. Dr. Charlotte Oduro-Yeboah MAG Focal Person, CSIR-Food Research Institute
6. Mr. Papa Toah Akonor, Senior Researcher, CSIR-Food Research Institute
7. Mrs. Leonora C. Baffour Gyasi, Principal Technologist, CSIR-Food Research Institute

1.4 Training Organizers

The organizers of the training programme included the following persons:

1. Ms. Prospera Anku, the Deputy Director of Directorate of Agricultural Extension Services (DAES)
2. Mr. Andrew Doku,
3. Ms. Benedicta Korsah,

1.5 Objective

The overall objective of the training programme was to train field officers on how to properly handle postharvest losses of some selected fruits in season by adding value

1.6 Specific Objectives

- Define the key concepts of postharvest management of fruits
- Understand the techniques involve in fruit juice processing
- Equip field officers to transfer acquired skills and knowledge to farmers

1.7 Target Audience

Twenty four (24) participants comprising mainly extension officers and some selected lead farmers were drawn from Women in Agricultural Development (WIAD) and Directorate of Agricultural Extension Services (DAES) of the Ministry of Food and Agriculture (MOFA). Fifteen (15) participants were males and nine (9) were females. Twenty (20) of the participants were Agriculture extension officers from DAES from MOFA and the remaining four (4) from WIAD. Nine (9) participants were from Greater Accra Region (GAR) mainly from Ga South, Ga Central and Ga West Districts, seven (7) were from Central Region (Komenda Edina Eguafó Abirem

(KEEA), Gomoa west and Awutu Senya districts) and eight (8) from Eastern Region (Akuapim South, Akuapim North, Upper Manya Krobo, Lower Manya Krobo and Asuogyama district.

2.0 Workshop Methodology

Participants of the workshop were provided with reference materials (stationery), tools and materials for running practical sessions as well as hands on training on the processing of fruit juices.

2.1 Scope of Lectures

The topics covered included the following: Basics of food processing, Importance of Food Preservation, Processing of fruit juice, Food safety, Food packaging and drying of Fruits (mangoes)

2.2 Training Expectations

It was envisaged that at the end of the 2-day workshop, following expectations would be met:

- Understand basic principles of food processing
- Understand the importance of food preservation
- Be equipped with techniques and principles of processing of fruit juices
- Understand the basic principles of food safety
- Be equipped with techniques of food packaging

3.0 Activities of Day One – 16th July, 2019

The first day of the training started with the arrival of the organizers, facilitators and participants at the venue of the programme. Registration of participants began at 8:30 am and ended at 9:00 am. The workshop officially started at 9:05 am with an opening prayer said by Ms. Prospera Anku. She welcomed all participants to the training on behalf of the organizers and introduced the facilitators and the organizers the training and introduction of participants were done accordingly. She invited the Eastern Regional Director of MOFA Mr. Henry Kobina Crenstil, to deliver the welcome Address. Mr. Emmanuel A. Odame, acting director of MOFA-DAES was called to give

a brief statement on behalf of DAES. Shortly afterwards, Prof. Paa-Nii T. Johnson was invited by Ms. Prospera Anku to give a statement on behalf of CSIR. The purpose of the workshop and modalities of the session were delivered by Ms. Prospera Anku.



Participants together with the workshop facilitators and organizers took a group picture at the entrance of the workshop venue at exactly 11:00 am and was followed by snack break. Participants resumed their seats after snack break at 11:05 am. Dr. Charlotte Oduro-Yeboah gave the presentation on the Basics of Food Processing and Importance of Food Preservation from 11:07 to 11:35 am. This was followed by a lecture on Food safety and Packaging from 11:40 am to 12: 50 pm by Mr. Papa Toah Akonor, a senior research scientist from CSIR-Food Research Institute.



Dr. Charlotte Oduro-Yeboah and the team from CSIR-FRI took the participants through some practical sessions on Processing of Fruits Juices (Mangoes). Participants were given the opportunity to have hands on knowledge on how to process fruit juices from mangoes.

3.1 Outline of Presentations on Processing of Fruit Juice

- Introduction
- Value addition to fruits
- Processing Stages in processing fruit juice
- Quality Measures (Good manufacturing Practices)

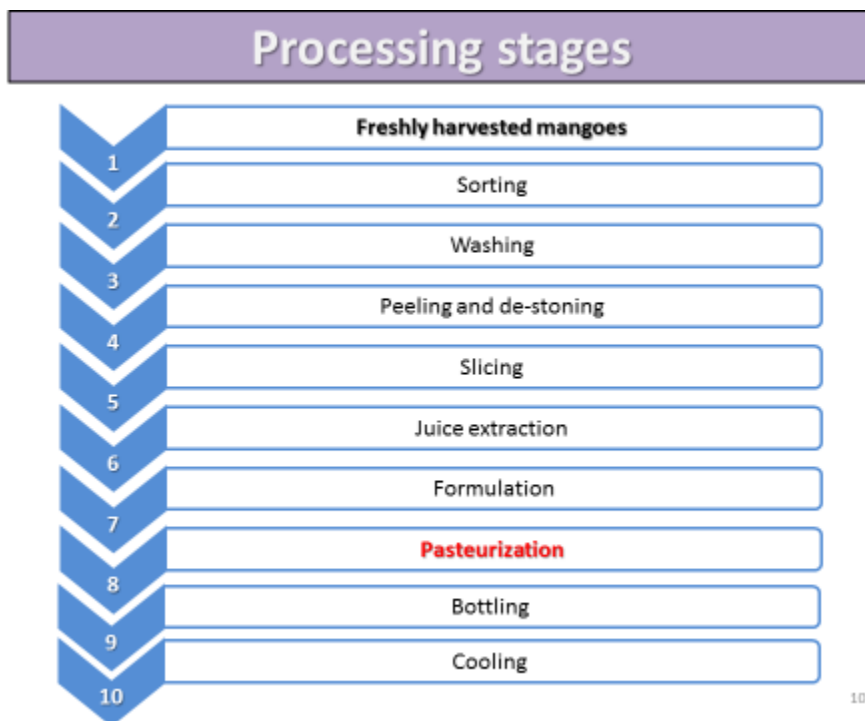
3.2 Outline of Presentations on Food Safety

- Food Safety and Hygiene
- Food Contamination
- Types of Hazards
- Prevention of contamination

3.3 Outline of Presentations on Food Packaging

- Introduction
- Categories of Packaging
- Choosing a packaging material
- Labelling

3.4 Stages in Fruit Juice processing



3.5 Activities of Day Two – 17th July, 2019

The second day of the workshop commenced with a prayer by Ms. Prospera Anku at 9:05 am followed by a recap exercise of the previous day's activities. The recap exercise done by Dr. Charlotte Oduro-Yeboah lasted for 30 minutes. Mr. Papa Toah Akonor was invited by Dr. Charlotte Oduro-Yeboah to give a presentation on Drying of Mangoes from 9:45 am to 10:30 am. This was followed by snack break from 10:30 to 11:00 am.

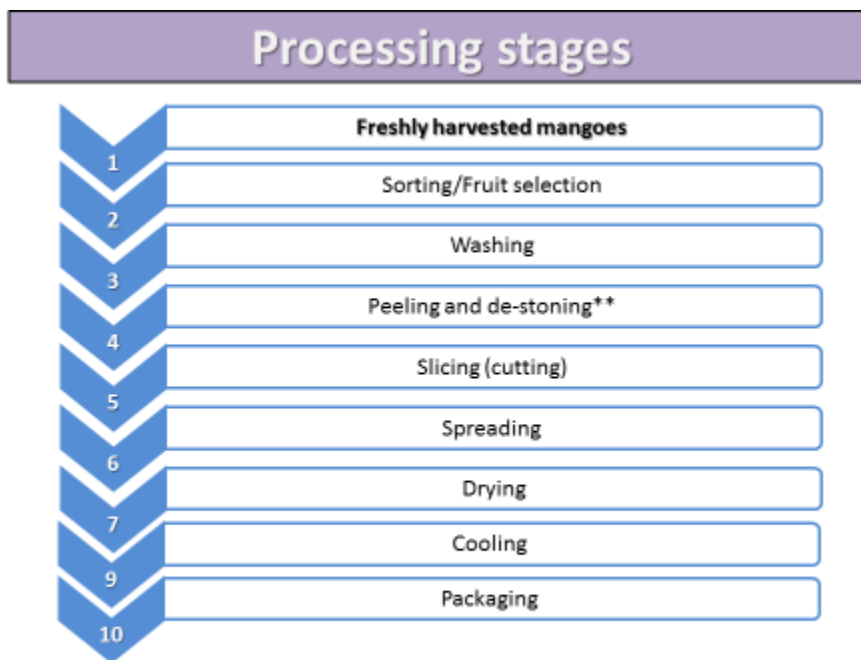


Participants were given the opportunity to ask questions pertaining to the topics presented on for the 2-day training programme. Between 11:10 am to 2:50 pm, Dr. Charlotte Oduro-Yeboah and the team from CSIR-Food Research Institute took the group through the processing of watermelon and pineapple juice.

3.6 Outline of Presentation on Drying of Mangoes

- Introduction
- Nutritional Profile of Dried fruits
- Processing stages in drying mangoes
- Packaging

3.7 Stages in Drying of Mangoes



3.8 Workshop Evaluation

The participants were given the platform to evaluate the various sessions of the workshop to enable the facilitators and organizers assess the success of the workshop.

4.0 Conclusion

At the end of workshop, the objective of training field officers on the proper management of postharvest losses of some selected fruits (watermelon and mangoes) in season. The participants were empowered to define the key concepts involved in the postharvest management of fruits. They were equipped in understanding the techniques involved in the processing fruit juices. Participants unanimously outlined the beneficial impact of the workshop on them and reiterated the need to transfer the acquired skills and knowledge to farmers. The participants also highlighted the entrepreneurial and business creation impact of the workshop on both the participants and their trainees.

4.1 Recommendations:

The following recommendations were made by participants on the concluding day of the workshop:

- There should be a documentary on the production of fruit juices
- Contact addresses of some prominent food science shops be made available to the participants.
- Information on presentation slides must be emailed to all participants of the workshop.

4.2 Closing Remarks

Ms. Prospera Anku, Deputy Director of Directorate of Agricultural Extension Services (DAES) gave a brief closing remark to officially bring the workshop to an end.

Appendices

Appendix A: List of Participants

No	Name	Gender	Position	Location/Region
1	Eric Yeboah	M	MAO-Extension/ Dept of Agric	Awutu Senya East/ Central
2	Jonathan Nortey	M	DAO-Extension/ Dept of Agric	Shai Osudoku Greater Accra
3	Anthionette Nyakpenu	F	RAO-Extension	Greater Accra
4	Bertha Karbo	F	DAO/ Extension	Aroma Ayawaso North
5	Vivian Turkson	F	Dept. of Agric	Awutu Senya East /Central
6	Samuel Mensah	M	DAO-Extension/ Dept of Agric	Akuapin North/Eastern
7	Francis Clotley	M	MAO-extension/Dept of Agric	Yilo Krobo/ Eastern
8	Edward Sawodji	M	DAO-Extension/ Dept of Agric	Upper Manya Krobo/ Eastern
9	Haafis Mohammed Aminu	M	DAO-Extension/ Dept of Agric	Akuapim South/ Eastern
10	Faustina Akpoh	M	WIAD officer/ Dept of Agric	Ga Central/ Greater Accra
11	Margaret Quarm	F	WIAD officer/ Dept of Agric	KEEA/ Central

12	Maureen M Awi	F	Extension/ Dept of Agric	Gomoa West/ Central
13	Akosua Mawufeuor Annor-Foffoe	F	WIAD officer	Gomoa West/ Central
14	Abrocham Fiifi Dawson	M	Extension officer	Ga South/ Greater Accra
15	Magaret E. Oduro	F	Dept of Agric	Ga East/ Greater Accra
16	Gifty Pamela Bebuafor	F	WIAD officer/ Dept of Agric	Ga West/ Greater Accra
17	Portia Tandoh	F	AO/ DAES	Greater Accra
18	Francis A. K. Mensah	M	Dept of Agric/ MOFA	Ga Central, Greater Accra
19	Peter Omega	M	RAO-Extension/ Dept of Agric	Cape Coast/ Central
20	Francis K Dorcoo	M	DAES/MOFA	Greater Accra
21	Samuel K Allotey	M	RAO-Extension/ Dept of Agric	Eastern
22	Alex Fordjor	M	MAO/MOFA	Lower Manya Krobo/ Eastern
23	Sylvester Gyebi	M	MAO/Dept of Agric	KEEA/ Central
24	Charles Nii Ankrah	M	DAO-Extension/ MOFA	Asuogyaman/ Eastern
Consultants and Facilitators				
25	Prof. Joe Manu-Adueninf	M	Technical Specialist/ CSIR	Ashanti

26	Paa-Nii T. Johnson	M	Technical Consultant CSIR/ HO	Accra
27	Henry Kobina Crenstil	M	Regional Director/Dept of Agric	Eastern
28	Dr. Charlotte Oduro- Yeboah	F	MAG Focal person/ CSIR-FRI	AMA/Greater Accra
29	Papa Toah Akonor	M	Researcher/ CSIR-FRI	AMA/ Greater Accra
30.	Leonora C. Baffour Gyasi	F	Principal Technologist/ CSIR-FRI	AMA/Greater Accra
31	Emmanuel A. Odame	M	Head of Field Services Unite/ DAES/MOFA	Greater Accra
Workshop Organizers				
32	Prospera Anku	F	Deputy Director/ DAES/MOFA	Greater Accra
33	Benedicta Korsah	F	DAES/MOFA	Greater Accra
34	Andrews Doku	M	DAES/MOFA	Greater Accra