

Online Training for Master Trainers
on
Spices & Plantation Crop Processing
19.01.2021 to 23.01.2021

Organized by
ICAR-Central Plantation Crops Research Institute Kasaragod, Kerala
In association with
Indian Institute of Food Processing Technology (IIFPT)

Inaugural Session Details

19.01.2021 (Tuesday)

Session

Time: 11.00 am -11.45 am

The Training of Master Trainer's Program in the domain of Spices & Plantation Crop Processing under PM FME scheme was inaugurated by Shri Manoj Joshi, Hon'ble Additional Secretary, MOFPI, Govt. of India. Dr. C. Anandharamakrishnan, Director, IIFPT, Thanjavur and Dr Anitha Karun, Director ICAR-CPCRI, Kasaragod were also present at the inaugural programme. The participation in training program was from 22 states having 43 participants.



Session Details

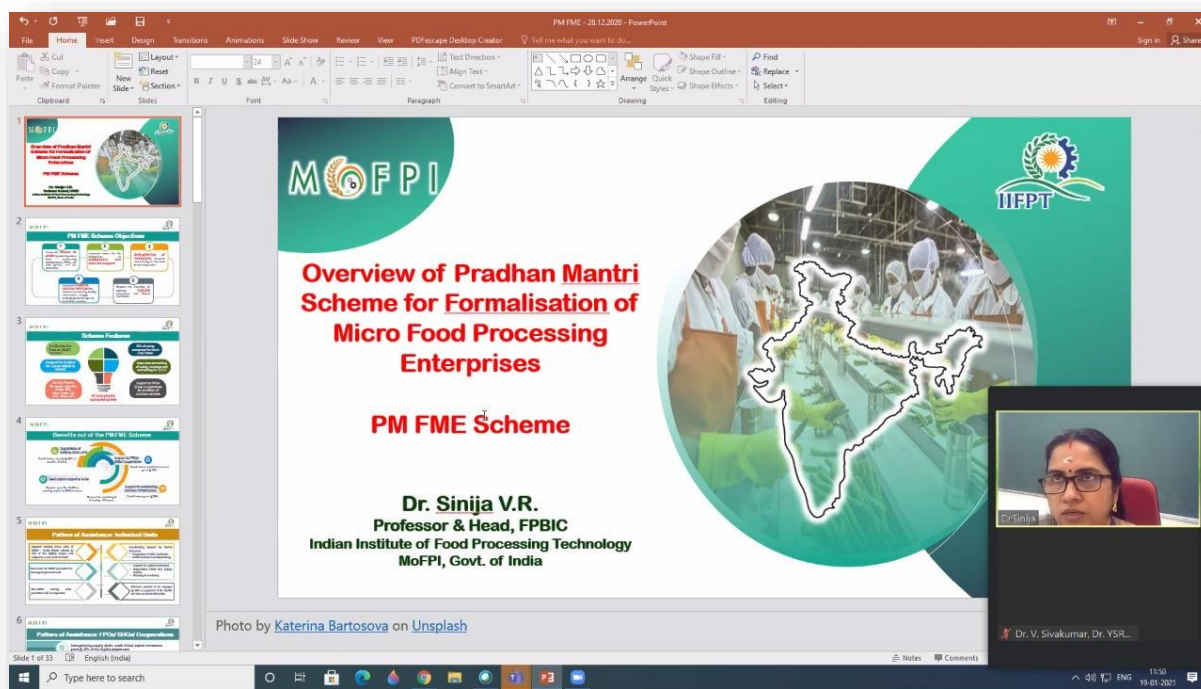
Time: 12.00 pm -01.00 pm

Session Topic: Overall scenario of food processing sector & overview of PMFME scheme, guidelines, objectives, capacity building framework and its implementation.

Speaker Detail: Dr. V.R Sinija, Professor & Head, FPBIC, IIFPT.

Session Highlights:

The session was about holistic inputs on food processing sub segments and India's position in those sub segments. The next part of the session provided overview about the PMFME scheme, various guidelines related to capacity building and introducing the concept of ODOP. Various queries were answered related to scheme assistance and ODOP.

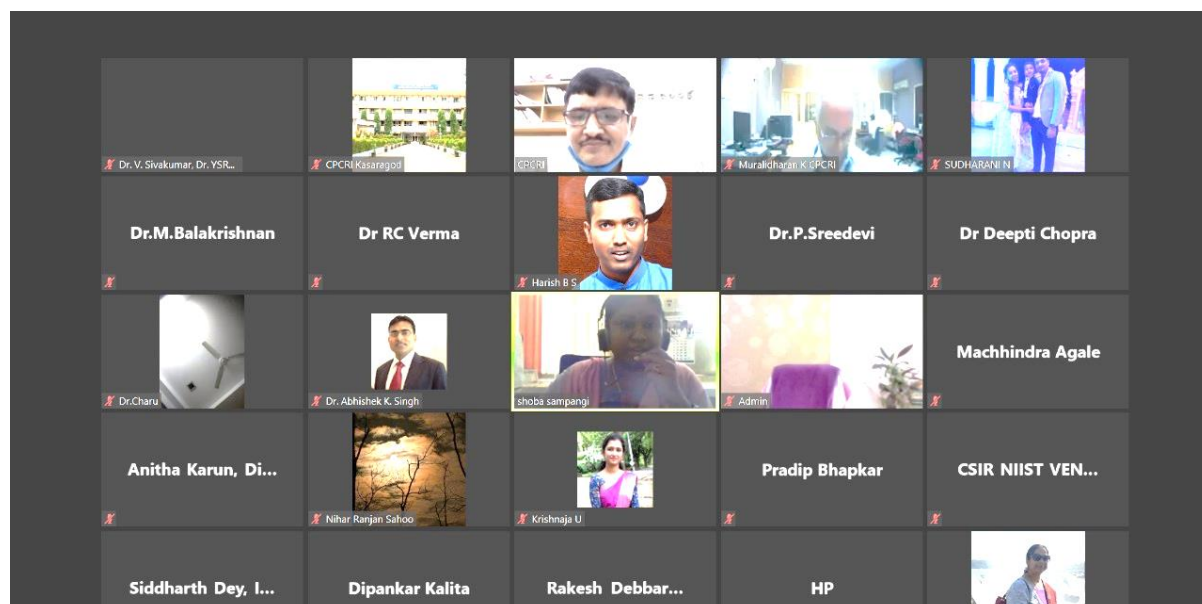


Day 1: 19.01.2021 (Tuesday)

Session Details:

| | | |
|--------------------|--|---|
| 02.00 am -03.00 pm | Status, market size and Scope of spices and plantation crop processing industry in India | Dr. S. Jayasekhar Senior Scientist ICAR-CPCRI, Kasaragod |
| 03.00 pm -04.00 pm | Selection, Procurement and supply chain management of spices and plantation crop for processing industry | Dr. S. Jayasekhar Senior Scientist ICAR-CPCRI, Kasaragod |
| 04.00 pm -06.00 pm | Equipments and specifications of machineries in coconut, arecanut and cocoa processing | Dr. A. C. Mathew Principal Scientist ICAR-CPCRI, Kasaragod |

The sessions involved overview on the status, market size and scope of spices and plantation crop processing industry in India. A detailed session was taken on the selection and procurement criteria of spices and plantation crop along with that detailed information was given on supply chain management of spices and plantation crop in order to prevent the post-harvest losses. Insights were given on the equipments and the specifications of machineries specially related to coconut, areca nut and cocoa processing. The session was ended up with the doubt clearing session of the participants.



Day 2: 20.01.2021 (Wednesday)

Session Details:

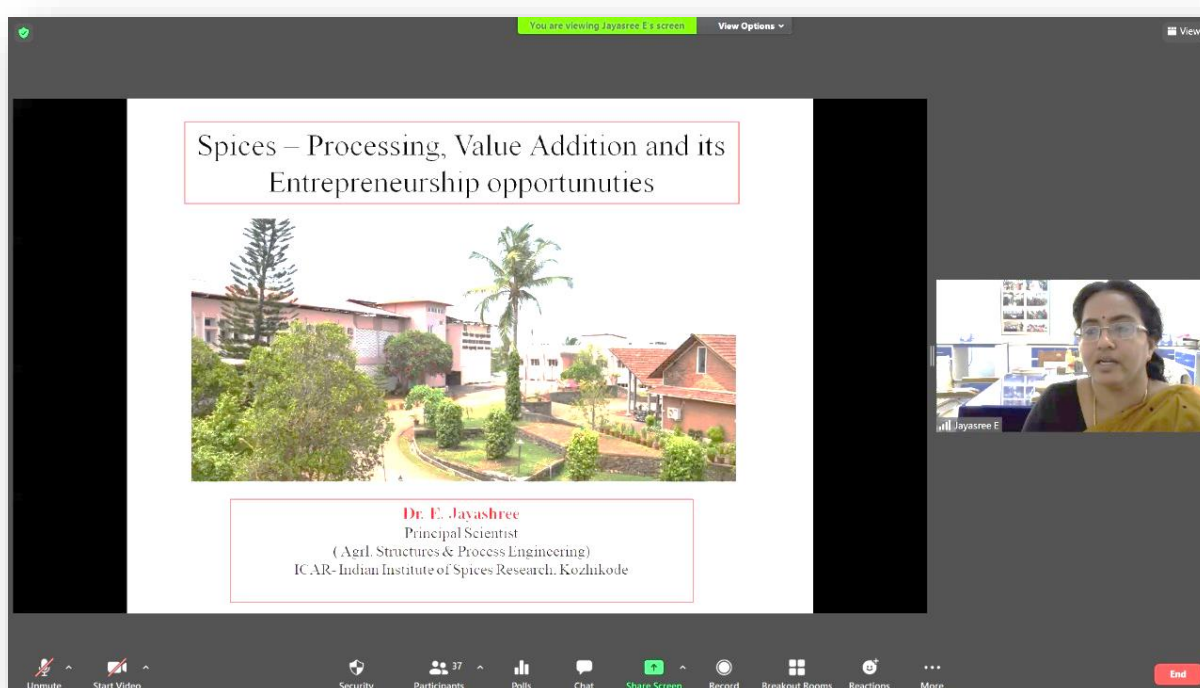
| | | |
|--------------------|---|--|
| 09.30 am -10.30 am | Equipments and specifications of machineries in cashew processing | Dr. D. Balasubramanian Principal Scientist ICAR-DCR, Puttur |
| 10.30 am -11.30 am | Cleaning in Process (CIP) | Shri. Jaganathan, G. Proprietor, Phoenix Global, Tumkur, Karnataka |
| 11.30 am -12.30 pm | Equipments and specifications of machineries in spices processing | Dr. E. Jayashree Principal Scientist ICAR-IISR, Kozhikode |
| 01.00 pm -02.00 pm | Spices Extracts: Essential oils, oleoresin, flavor and natural color and pigments | Dr. Anees, K. Scientist (Biochemistry) ICAR-IISR, Kozhikode |
| 02.00 pm-03.00 pm | Value addition of spices crops | Dr. E. Jayashree Principal Scientist ICAR-IISR, Kozhikode |
| 03.00 pm -04.00 pm | Value addition of plantation crops | Dr. M. R. Manikantan Principal Scientist ICAR-CPCRI, Kasaragod |

04.00 pm -06.00 pm

Coconut based value added products

Dr. Shameena Beegum and Dr. R. Pandiselvam Scientists, ICAR-CPCRI, Kasaragod

The sessions during the day involved discussion and imparting knowledge about various equipments and machineries and their specifications used in the processing of cashew nut. A detailed session was given on the cleaning in process which involved discussion on cleaning and sanitation, why it is important and what are the cleaning aids available in the market. Further sessions were taken to impart information on equipments and specifications of machineries in spices and plantation crop processing. Various value added products of spices and plantation crops were discussed. The session was ended up with the detailed discussion on value added products produced from coconut.



Day 3: 21.01.2021 (Thursday)

10.00 am -11.00 am

Overview of Packaging of spices and plantation crops

Dr. Tanweer Alam, Director, IIP, Mumbai

11.00 am -12.00 pm

Selection of packaging materials and standards for spices and plantation crop products

Mr. Ponkumar, Deputy Director, IIP, Chennai

| | | |
|---------------------|---|--|
| 12.00 pm -01.00 pm | Recent packaging techniques to extend the shelf life | Mr. Ponkumar, Deputy Director, IIP, Chennai |
| 02.00 PM – 03.00 PM | Advances in packaging and storage of spices and plantation crops | Dr. S. Anandakumar, Associate Professor, IIFPT, Thanjavur |
| 03.00 pm -06.00 pm | Plant layout and maintenance for spices and plantation crops processing | Dr. Ravindra Naik Principal Scientist ICAR-CIAE Regional Centre, Coimbatore & Dr. R. Pandiselvam Scientist ICAR-CPCRI, Kasaragod |

The day was started with the session on the overview of packaging of spices and plantation crops. Detailed information was imparted on various kind of packaging material available in the market, criteria for selecting the particular packaging material and the standards related to packaging of spices and plantation crop. Further insights were given on how the recent packaging technologies can prevent the deterioration and extend the shelf life of the products. Detailed session was taken on the advances in the packaging material and what are the storage practices should be followed in order to extend the shelf life of product. The day was ended up with the session on plant layout and maintenance for spices and plantation crops processing.

Shelf life estimation of Spices
Product character, package and Environment

Shelf life estimation

- Literature study
- Turnover time
- End point study
- ASLT

$$\ln \frac{m_e - m_i}{m_e - m_c} = \frac{P}{X} \frac{A}{w_s} \frac{P_0}{b} \theta_s$$

| | |
|------------------|--|
| Spices, ground | 2-3 years |
| Spices, whole | 3-4 years |
| Seasoning blends | 1-2 years |
| Herbs | 1-3 years |
| Extracts | 4 years, (except pure vanilla, which lasts indefinitely) |

improve the shelf life of spices is 'Cryogenic Grinding Technology'

Study materials

Day 4: 22.01.2021 (Friday)

| | | |
|--------------------|---|--------------------------------|
| 10.00 am -01.00 pm | Need for testing of Food GMP, GHP, GLP practices; | Dr. Kannan, DO, FSSAI, Chennai |
|--------------------|---|--------------------------------|

| | | |
|--------------------|--|---|
| | Notified NABL labs, Referral Labs and Reference Labs in India | Dr. Kannan, DO, FSSAI, Chennai |
| | Regulations and standards for maintaining food safety and quality –BIS, FSSAI and International standards – FSSAI packaging and labelling requirements. FSSAI registration and licensing procedure | Dr. Kannan, DO, FSSAI, Chennai |
| 02.00 pm -04.00 pm | ASTA standards for clean spices and CODEX national and international standards relevant to Spices and plantation crops | Sh. Sanjay Dave, Advisor, FSSAI & Former Chairperson of CODEX |
| 04.00 pm -06.00 pm | HACCP and its implementation program | Dr. N. Anandavalli FAO and WHO Consultant Cochin |

The sessions covered various aspects of FSSAI Registration and Licensing Regulations. FSSAI Packaging and Labelling Regulations was discussed in detail. During the session, various queries of participants was answered pertaining to the challenges faced by food business operators. The critical aspects of quality assurance and adherence to quality standards, with detailed discussion on testing facilities was discussed. Insights were given on the ASTA standards, CODEX national and international standards related to spices and plantation crops



Day 5: 23.01.2021 (Saturday)

08.00 am -01.00 pm

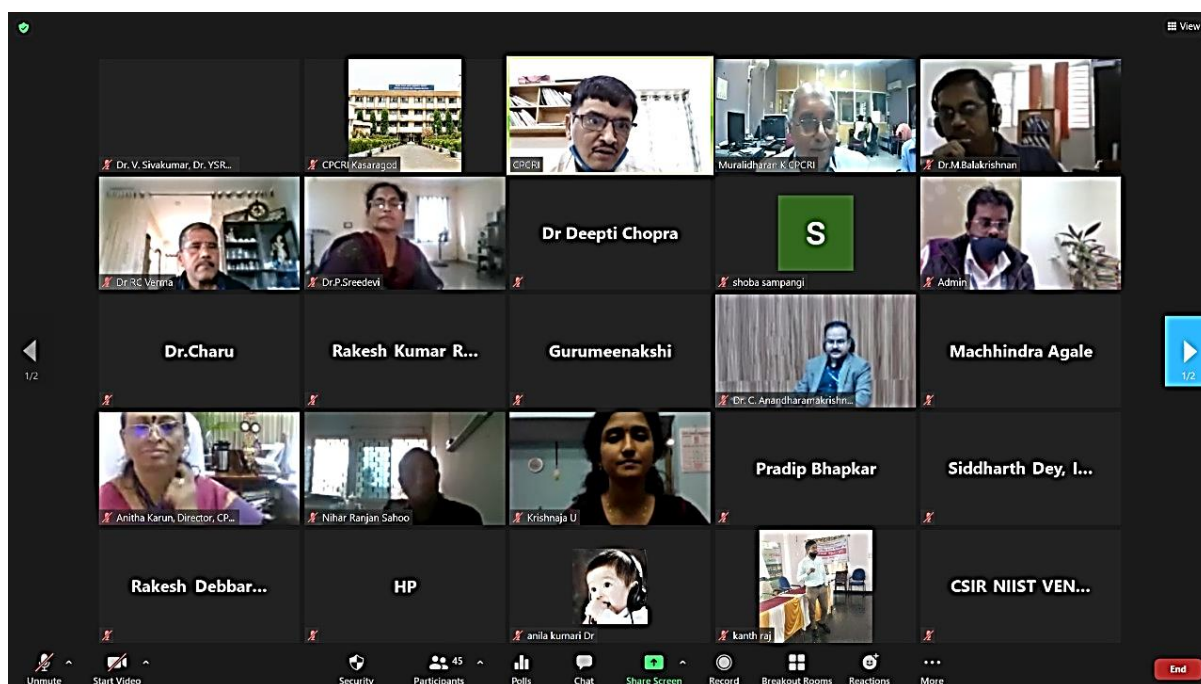
Emotional self-management, leadership and teaming skills Entrepreneurial, networking and problem management competencies Confidence building and stress management

Shri. S. George Senior Leadership & Soft Skills Facilitator, Drishti Centre for Excellence, Mumbai

Developing creativity, innovative thinking & risk taking ability Effective communication skills Goal setting for performance

Shri. S. George Senior Leadership & Soft Skills Facilitator, Drishti Centre for Excellence, Mumbai

The session was on emotional self-management, leadership, and teaming skills. The session was more practical and interactive, with participants been involved through videos, surveys and discussions. Illustrative discussion on Entrepreneurial Approach / Mind-set was carried out describing characteristics and mind set, states of behaviour and personality types. The session involved assessing networking skills, leadership capabilities and characteristics, networking dynamics and team skills.



State wise participant details for Grain processing training program:

| State/ UT | Number of Participants |
|--|-------------------------------|
| Andaman and Nicobar Islands | 2 |
| Andhra Pradesh | 4 |
| Assam | 1 |
| Chattisgarh | 3 |
| Dadra and Nagar Haveli and Daman and Diu | 1 |
| Delhi | 1 |
| Gujarat | 1 |
| Himachal Pradesh | 1 |
| Karnataka | 4 |
| Kerala | 3 |
| Lakshadweep | 1 |
| Madhya Pradesh | 1 |
| Maharashtra | 2 |
| Meghalaya | 2 |
| Nagaland | 1 |
| Odisha | 2 |
| Rajasthan | 2 |
| Sikkim | 2 |
| Tamil Nadu | 2 |
| Telangana | 1 |
| Tripura | 2 |
| Uttar Pradesh | 4 |
| Total | 43 |
