

## **ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY**

(Unit of Alva's Education Foundation (R), Moodbidri)

Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi. Recognized by Government of Karnataka.

**A+, Accredited by NAAC & NBA (ECE & CSE)**

Shobhavana Campus, MIJAR-574225, Moodbidri, D.K., Karnataka

Ph: 08258-262725; Mob:722262724,7026262725,mail:principalaleet08@gmail

## **DEPARTMENT OF AGRICULTURE ENGINEERING**

ACTIVITY REPORT 2022-23



# ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

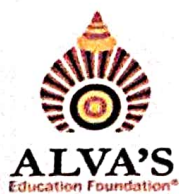
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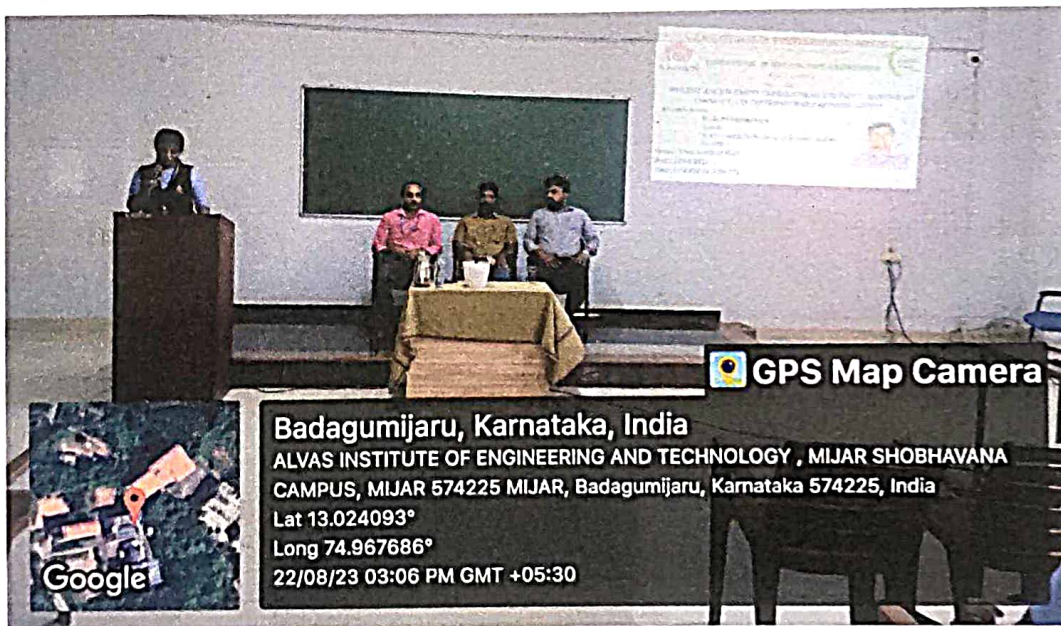
## Department of Agriculture Engineering

**Guest Lecture on "Recent advancement in processing and value addition of coconut – Entrepreneurship opportunities",  
by Dr. R. Pandiselvam, Scientist, CPCRI, Kasaragod.**

### Objectives

To give exposure to recent advancement in processing and value addition of coconut and also about latest entrepreneurship opportunities in the field of coconut processing.

### Report with geo tagged photos





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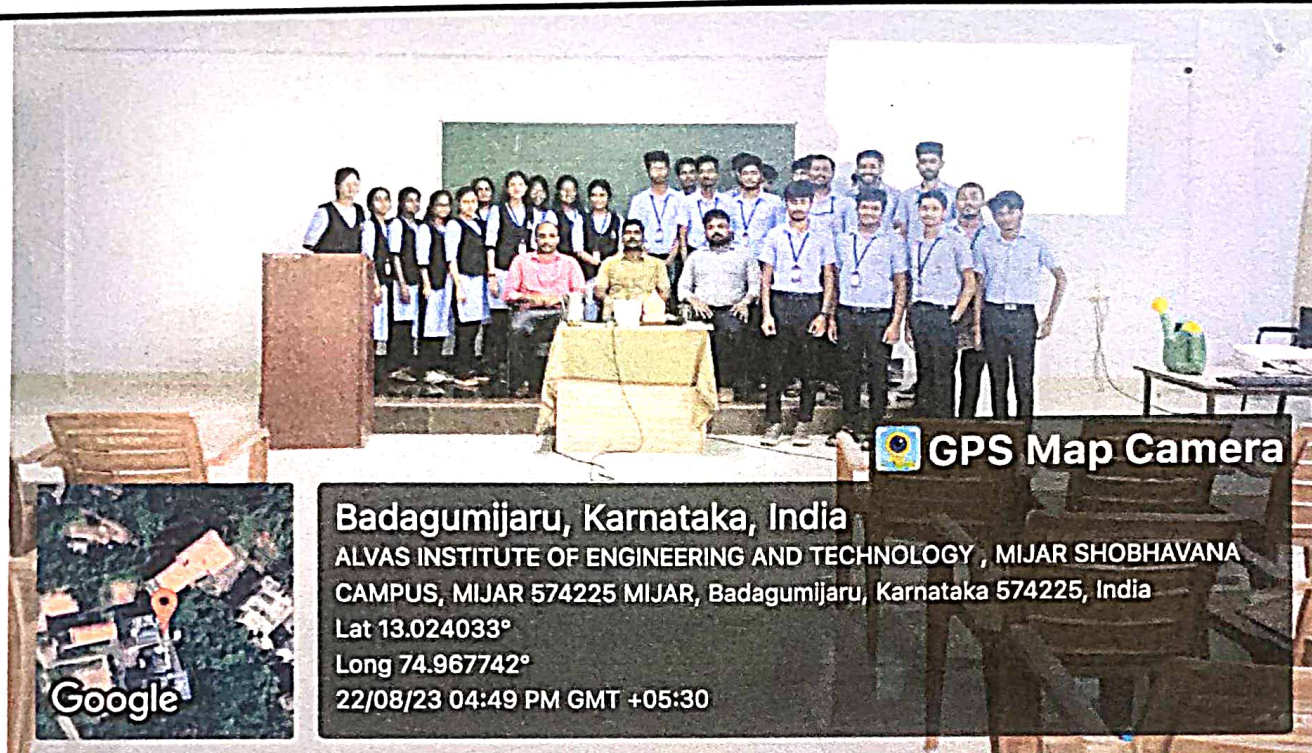
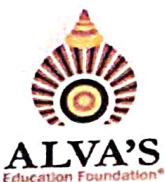
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## The outcome of the event

Dr. R. Pandiselvam was welcomed and introduced by the Head of Department of Agricultural Engineering. Later the technical session was started by the resource person on Coconut Novel Products and Processing Machine for Micro Enterprises. He started the session with the basic concept of Entrepreneurship-Oriented Technologies followed by coconut cutting machines and informed us about Solutions to increase the income from coconut cultivation his detailed explanation is given below.

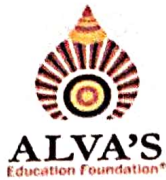
Coconut is the only tropical crop commercially cultivated in about 93 countries with an area of 11.8 million hectares and production of 15 billion nuts. coconut is used for making copra (50%). it is also not only used as edible oil but also as industrial oil. coconut is used as tender coconut water which is healthy for human beings at 20%. the remaining is used for culinary purposes is 30%. at present profitability of coconut farming is linked to the price behavior of coconut oil. can be delinked only when diversified coconut products are extensively produced from coconut. entrepreneurship-oriented technologies are trimmed tender nut, kalparasa (neera), kalpa krunch, bean-to-bite chocolate, virgin coconut oil (vco), snowball tender nut, coconut chips and coconut milk-frozen dessert.

## Coconut cutting machines - Types

The following are different types of coconut-cutting machine are as follows:

1. Automatic Tender Coconut Cutting Machine.
2. Automatic Tender Coconut Punching & Cutting Machine.





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## 5. Coconut Milk

- Made by Blending Coconut Meat with Water
- Used in Cooking
- Base for Curries, Soups, and Sauces

## 6. Coconut Cream

- Richer and Thicker than Coconut Milk
- Versatile Use in Savory and Sweet Dishes

## 7. Coconut Oil

- Versatile Oil
- Culinary, Cosmetic, and Industrial Uses
- Extracted from Mature Coconuts

## 8. Coconut-based Snacks

- Includes Coconut Chips, Flakes, and Clusters
- Sweetened, Flavored, or Toasted for Snacking

## 9. Coconut Desserts

- Coconut Puddings, Ice Creams, and Jellies
- Tender Coconut Pulp and Coconut Milk or Cream

## 10. Coir Products

- Derived from Coconut Byproducts
- Includes Mats, Brushes, and Ropes

## 11. Activated Carbon

- Produced from Coconut Shells
- Industrial and Environmental Applications

## 12. Coconut Water Powder

- Freeze-Dried or Spray-Dried Coconut Water
- Powdered Form for Convenience
- Used in Food and Beverage Industry for Shelf Stability

## Capacity and Cost economics of tender coconut cutting machines

- The motorized Tender Coconut Punching Machine has a capacity of 600 nuts/h and the lowest cost is about Rs. 25000/-.
- Automatic Tender Coconut Cutting Machine with a capacity of 150 nuts/h and the cost is about Rs. 55800/-.



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3. Hydraulic-based Tender Coconut Cutting Machine.
4. Tender Coconut Trimming Machine.
5. Testa Removing Machine (Semi-automatic).
6. Testa Removing Machine (Automatic).
7. Kalpa Krunch.

## **Advantages**

- Chopping, punching, and cutting the tender coconut are more difficult processes and require skilled persons.
- The tools (lengthy kinfe/Sickle) used are unsafe, messy and also needs skill.
- The risk of injury is also too high.
- There are some machines for punching the coconut, but until now no automatic machine exists to perform the punching and cutting.

## **Tender Coconut Processing industries**

Certainly, here are the products of tender coconut processing products

### **1. Tender Coconut Water**

- Fresh and Natural Beverage
- Natural Sweetness
- Hydration and Health Benefits

### **2. Flavored Coconut Water**

- Infused with Natural Fruit Juices or Flavors
- Varieties include Pineapple, Mango, Passion Fruit, etc.

### **3. Coconut Water Concentrate**

- Reduced-Water Coconut Extract
- Ingredient for Various Products
- Adds Coconut Flavor and Hydration

### **4. Coconut Pulp**

- Soft, Jelly-Like Coconut Meat
- Fresh Consumption
- Use in Salads, Smoothies, and Desserts



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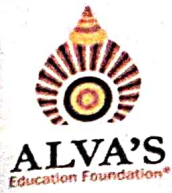
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- 
- Solar Assisted Tender Coconut Cutting Machine with a capacity of 60-70 nuts/h and the cost is about Rs. 70000/-.
  - Hydraulic Tender Coconut Cutting Machine with a working capacity of 300 nuts/h and the maximum cost is about Rs. 88650/-.
  - Tender coconut trimming machine with the highest cost of Rs.145000/-.

At the end of the technical talk, students came to know the importance of tender coconut cultivation and existing processing industries, Preservation protocol for trimmed tender coconut, and machinery developed for the production of VCO and kalpa krunch ready-to-eat extruded snacks, coconut milk residues and its by products and finally concluded with coconut chips.

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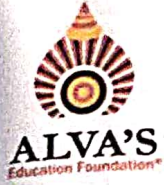
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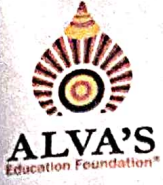
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## **Annexure**





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Ph: 08258-262725; Mob:722262724,7026262725,mail:principalaiet08@gmail.com

Date: 14-08-2023

From,  
The Principal  
AIET, Moodabidri

To,  
The Director  
ICAR-Central plantation Crops Research Institute  
Kasargod

Respected sir,

**Sub:** Requesting to depute Dr. R. Pandiselvam, Scientist (Agricultural Structure & Process Engineering) for delivering a Guest Lecture - Reg.- Reg.

I am pleased to inform you that, the Alvas Institute of Engineering and Technology, Moodabidire is one of the premier institute in Dakshina Kannada district offering B.E (Agriculture Engineering) Programme, since 2021. In this context, I take the privilege to invite Dr. R. Pandiselvam, Scientist having the specialization in Agricultural Structure & Process Engineering as a resource person for a Guest Lecture to be organized by the Department of Agriculture Engineering on the topic of '**Recent advancement in processing and value addition of coconut –entrepreneurship opportunities**' is scheduled on 22/08/2023 at 3:30 PM to 5:00 PM in our campus. I request you to kindly accept our invitation and depute a scientist to enlighten our students by sharing his valuable professional experience.

Looking forward for your acceptance.

With kind regards, thanking you

  
PRINCIPAL  
Alva's Institute of Engg. & Technology,  
Mijar. MOODBIDRI - 574 225, D.K



Alvas Institute Of Engineering & Technology Agriculture Dept <aietag08@aiet.org.in>

## Request letter

Alvas Institute Of Engineering & Technology Agriculture Dept <aietag08@aiet.org.in>

Mon, Aug 14, 2023 at 12:53 PM

To: R Pandiselvam <anbupandi006@gmail.com>

Date: 14-08-2023

From,  
The Principal  
AIET, Moodabidri

To,  
The Director  
ICAR-Central plantation Crops Research Institute  
Kasargod

Respected sir,

**Sub:** Requesting to depute Scientist (Agricultural Structure & Process Engineering) for delivering a Guest Lecture - Reg.

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Looking forward for your acceptance.

**Thanks & Regards**

**Dr. Shashikumar**

**Associate Professor & Head**

**Department of Agricultural Engineering**

**ALVAS INSTITUTE OF ENGINEERING & TECHNOLOGY**

**Mijar, Moodabidre**

**Contact Number: 9113019074/9535912527**





Alvas Institute Of Engineering & Technology Agriculture Dept <aietag08@aiet.org.in>

## Request letter

R Pandiselvam <anbupandi006@gmail.com>

Tue, Aug 22, 2023 at 9:09 PM

To: Alvas Institute Of Engineering & Technology Agriculture Dept <aietag08@aiet.org.in>

Hi,  
Many thanks for inviting me to deliver a lecture. It is my pleasure to collaborate with you in the future.  
Kindly prepare a certificate (softcopy ) and send it to me.  
Also, share the photos in whatsapp

[Quoted text hidden]

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ALVA'S  
Education Foundation

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## DEPARTMENT OF AGRICULTURE ENGINEERING



*Guest Lecture on*

## “RECENT ADVANCEMENT IN PROCESSING VALUE ADDITION OF COCONUT – ENTREPRENEURSHIP OPPORTUNITIES”

### *Resource Person*

**Dr. R. PANDISELVAM**

Scientist, ICAR- Central plantation crops research institute  
Kasaragod, Karnataka

*Venue: Civil Seminar Hall.*

*Date: 22/08/2023*

*Time: 3:30 pm to 5:00 pm*





## Internal Quality Assurance Cell (IQAC)

### Department of Agriculture Engineering

#### Guest Lecture

#### Participated Student's details -

Sl.No	USN	Student Name	Semester	Signature
1	4AL21AG001	A BHOOMIKA REDDY	IV	<i>Bhoomika Reddy</i>
2	4AL21AG002	ABHISHEK K S	IV	<i>Abhishek K S</i>
3	4AL21AG003	AJITH MALI PATIL	IV	<i>Ajith Mali Patil</i>
4	4AL21AG004	AMARNATH I	IV	<i>Amarnath I</i>
5	4AL21AG005	ANANYA K	IV	<i>Ananya K</i>
6	4AL21AG006	CHAITRA	IV	<i>Chaitra</i>
7	4AL21AG007	CHANDAN B M	IV	<i>Chandana B M</i>
8	4AL21AG008	CHANDU S	IV	<i>Chandu S</i>
9	4AL21AG009	CHEETHAN P	IV	<i>Cheethan P</i>
10	4AL21AG010	DEEPAK M S	IV	<i>Deepak M S</i>
11	4AL21AG011	DEEPAK R	IV	<i>Deepak R</i>
12	4AL21AG012	H P Y SACHIN	IV	<i>H P Y Sachin</i>
13	4AL21AG013	HAHEEL NIYAZ	IV	<i>Haheel Niyaz</i>
14	4AL21AG014	JEEVAN KUMAR H N	IV	<i>Jeevan Kumar H N</i>
15	4AL21AG015	K A PREKSHA	IV	<i>K A Preksha</i>
16	4AL21AG016	KEERTHAN ALVA	IV	<i>Keerthan Alva</i>
17	4AL21AG017	KEERTHANA M RAM	IV	<i>Keerthana M Ram</i>



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2	4AL21AG002	ABHISHEK K S	IV	Abhishek K S
3	4AL21AG003	AJITH MALI PATIL	IV	Ajith Mali Patil
4	4AL21AG004	AMARNATH I	IV	Amarnath I
5	4AL21AG005	ANANYA K	IV	Ananya K
6	4AL21AG006	CHAITRA	IV	Chaitra
7	4AL21AG007	CHANDAN B M	IV	Chandana B M
8	4AL21AG008	CHANDU S	IV	Chandu S
9	4AL21AG009	CHETHAN P	IV	Chethan P
10	4AL21AG010	DEEPAK M S	IV	Deepak M S
11	4AL21AG011	DEEPAK R	IV	Deepak R
12	4AL21AG012	H P Y SACHIN	IV	H P Y Sachin
13	4AL21AG013	HAHEEL NIYAZ	IV	Haheel Niyaz
14	4AL21AG014	JEEVAN KUMAR H N	IV	Jeevan Kumar H N
15	4AL21AG015	K A PREKSHA	IV	K A Preksha
16	4AL21AG016	KEERTHAN ALVA	IV	Keerthan Alva
17	4AL21AG017	KEERTHANA M RAM	IV	Keerthana M Ram





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18	4AL21AG018	KIRAN V	IV	<i>[Signature]</i>
19	4AL21AG019	MANASI ANILRAO PAPPALÉ	IV	<i>[Signature]</i>
20	4AL21AG020	MANSOOR P E	IV	<i>[Signature]</i>
21	4AL21AG021	MONISHA S	IV	<i>[Signature]</i>
22	4AL21AG022	NAGASHREE N	IV	<i>[Signature]</i>
23	4AL21AG023	NAVYA K	IV	<i>[Signature]</i>
24	4AL21AG024	POORNACHANDRA	IV	<i>[Signature]</i>
25	4AL21AG025	PRANEETH	IV	<i>[Signature]</i>
26	4AL21AG026	REGAN AIDON SALDANHA	IV	<i>[Signature]</i>
27	4AL21AG027	SAHANA M GOWDA	IV	<i>[Signature]</i>
28	4AL21AG028	SANTHOSH M	IV	<i>[Signature]</i>
29	4AL21AG029	SAWAN SHETTY	IV	<i>[Signature]</i>
30	4AL21AG030	SHREEHARSHA K S	IV	<i>[Signature]</i>
31	4AL21AG031	SNEHA M	IV	<i>[Signature]</i>
32	4AL21AG032	SUSHA S SHETTY	IV	<i>[Signature]</i>
33	4AL21AG033	SUTHEEJ	IV	<i>[Signature]</i>
34	4AL21AG034	TARUN K	IV	<i>[Signature]</i>
35	4AL21AG035	TEJASKUMAR	IV	<i>[Signature]</i>
36	4AL21AG036	USAMA MEHABOOSAB KOPPAL	IV	<i>[Signature]</i>

Total No. of students participated -

*[Signature]*  
**HOD**

*[Signature]*  
**IQAC Coordinator**

*[Signature]*  
**IQAC Chairman**

Dept. of A. J. Technical Engineering  
Alva's Institute of Engineering & Technology  
Mijar, Moodbidri

Alva's Institute of Eng. & Technology,  
Mijar, MOODBIDRI - 574 225, D.K.

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Mob: 722262724, 7026262725, mail: principalaiet08@gmail.com

## Department of Agriculture Engineering

### Feedback Form – Guest Lecture

Name of the student: H P Y Sachin

Student USN 4AL21AG012

Semester: 4<sup>th</sup>

Date of Guest Lecture: 22/08/2023

Name of the Resource Person: Dr. R. Pandi Belvam.

#### Directions:

For each item please indicate your level of satisfaction by ticking the following statement by choosing a score between 1 and 5.

[Excellent – 5, Very Good – 4, Good – 4, Average – 2, Below Average – 1]

Sl. No.	Statement	5	4	3	2	1
1.	The Guest Lecture was technology oriented	✓				
2.	The Guest Lecture was applicable to my future needs	✓				
3.	The Guest Lecture was enhanced your skills	✓				
4.	The program was well planned within the allotted time		✓			
5.	The resource person was a well experienced and knowledgeable in his profession	✓				
6.	The material was presented in an organized manner	✓				
7.	Would you interested in attending such Guest Lecture in future	✓				
8.	Any suggestions for improvement : NO Suggestion.					

*Sachin*

Signature of the student