



Koneru Lakshmaiah Education Foundation

(Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

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Campus: Green Fields, Vaddeswaram - 522 502, Guntur District, Andhra Pradesh, INDIA.

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Department of Biotechnology, KLEF - VADDESWAREM

CIRCULAR

Date:06-09-2019

Subject: Disease Detectives and Disease Fighters: Researching Solutions for Oil Palm Challenges

Date and time: 08/09/2019; Time: 9.00 AM to 5 PM;

Name of Event: Alumni Industry Connect;

Venue: IOPR, Pedavegi, Eluru, West Godavari, AP, India

This is to inform that Department of Biotechnology is organizing an industrial visit on Disease Detectives and Disease Fighters: Researching Solutions for Oil Palm Challenges on the above mentioned date, time and venue..

All students, faculty members, and interested persons are invited to attend the same.

(HoD)

Head
Department of Biotechnology
Koneru Lakshmaiah Education Foundation
(Deemed to be University)
VADDESWAREM, Guntur Dt.



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KONERU LAKSHMAIAH EDUCATIONAL FOUNDATION

Disease Detectives and Disease Fighters: Researching Solutions for Oil Palm Challenges

(ALUMNI INDUSTRY CONNECT)

Name of Event: Alumni Industry Connect

Venue: IIOPR, Pedavegi, Eluru, West Godavari, AP, India

Date: 08/09/2019; Time: 9.00 AM to 5 PM

No. of students Participated:47

Objective of the event:

To expose the students about the recent trends and techniques in oil palm research

Naveen an alumnus of KL University has invited out faculty and students to get exposure on latest trends in disease detection and disease fighters by modifying the genes in palm research. An Industrial visit to **Indian Institute of Oil palm Research (IIOPR)**, Pedavegi was organized by the Biotechnology Department of KLEF on Saturday, 8th Sep 2019. Students and four faculties visited to the palm oil factory at 12.30 pm.

Description:

First, we visited the factory and then visited the research institute IIOPR where the research is carried out. The purpose of the visit is to know the processes of extraction of oil from palm and to know how the research is carried to produce HYV of palm.

We interacted with the industrialist who is controlling the factory operations. He gave a detailed explanation about how the process of extraction is done in chronological order. We came to know the equipment used and the methodology of extraction.

The equipment used by the factory include digesters, clarifiers, roll mills and sterilization equipment.

Firstly, the palm were loaded into large containers as shown. These containers have the capacity of 10 tons.



These loaded containers are subjected to sterilization (moist heat) at 5kg pressure. This is done to decontaminate the palm fruits and loosen them as steam passes into them, so that it could be easy to separate the seed from the fruit. Here they use the mesocarp of the fruit is used for the production of oil not the seed.



Oil Palm containers

These sterilised palms were sent into the roll mills which separates the fruits from the stem or branches, and other dust like leaves etc which are not necessary. Then the separated fruits are sent into the digesters. In the digesters the fruits are digested so that the fibrous material and seeds are separated out and the digested fruit mesocarp comes as watery substance which is a mixture of oil, water and sludge. This watery substance is sent into clarifiers. Clarifiers are maintained at 90°C which makes the oil to float on water as top layer, water and sludge and

other solid materials are deposited down the clarifier. This oil is then extracted out. The left-over sludge and water are sent to effluent treatment plant for further extraction. The fibrous material obtained after digestion are used for boilers for fire and the seeds are exported to other industries which produce oil from seeds and that particular unit is not present in this factory. Thus we have learnt about the process of palm oil extraction.

Our next visit was to the research institute IOPR where research is carried out to produce palm trees of high yield. There we came across different labs, labs of plant pathology, molecular biology, microbiology, biochemistry. There we learnt how the research process is carried out by using equipment like PCR, agarose gel electrophoresis, gel doc, centrifuges.

Tenera is the hybrid of palm used for palm oil extraction. Tenera is the hybrid which is obtained by cross between **dura** and **pisifera**. As oil is extracted from mesocarp we need the fruit with more mesocarp, no seed shell and small seed.

Outcomes

The students were made aware of the recent trends in oil palm research.

S.NO	REG. NO.	NAME OF THE STUDENT	DEPT	SIGNATURE
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3	180010008	ROHITHA AKULA	BT	Rohitha Akula
4	180010011	SWETHA MOORTHY KRISHNAN	BT	Swetha Moorthy
5	180010013	SIBIN N	BT	Sibin N
6	180010014	PERINI TURUPATI	BT	Perini Turupati
7	180010017	CHINTAMANENI SHANMUKH CHOWDARY	BT	Chintamaneni Shanmukh Chowdary
8	180010019	KAKUMANU PRASHANTH BABU	BT	Kakumanu Prashanth Babu
9	180010024	JAMULLAMUDI VINEETHANAND	BT	Jamullamudi Vineethanand
10	180010025	SUDA VENKATA SAI DHEERAJ	BT	Suda Venkata Sai Dheeraj
11	180010026	MOVVA DEEPTHI	BT	Movva Deepthi
12	180010028	MUDDANA SUSMITA SRI	BT	Muddana Susmita Sri
13	180010030	KOTARI SIVARAMAKRISHNA AKHIL	BT	Kotari Sivaramakrishna Akhil
14	180010034	MAJJI KRISHNAVENI	BT	Majji Krishnaveni
15	180010036	MEDIKONDA KEERTHI PADMA SREE	BT	Medikonda Keerthi Padma Sree
16	180010038	PASUMARTHI DINESH SAI KUMAR	BT	Pasumarthi Dinesh Sai Kumar
17	180010039	ANNAPUREDDY VEERAVENKATASATISHKUMAR	BT	Annapureddy Veeravenkatasatishkumar
18	180010041	PAMARTHI CHATURYA ANKAMMA	BT	Pamarthi Chaturya Ankamma
19	180010043	KAVUTURI SAI PRASAD	BT	Kavuturi Sai Prasad
20	180010046	BABITHA SRI MAJETI	BT	Babitha Sri Majeti
1	180010048	ASAPU DEVI PRASANNA	BT	Asapu Devi Prasanna
2	180010050	NELLURI KRISHNA CHAITANYA	BT	Nelluri Krishna Chaitanya
3	180010052	MOCHARLA ROSHINI	BT	Mocharla Roshini

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26	180010062	NADELLA LAKSHMI DEEPTHI	BT	N. Laksh. Deepthi
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28	180010065	MEDIKONDA NAVYA SAI	BT	M. Navya Sai
30	180010067	MEKALA RAMYA REDDY	BT	M. Ranya Reddy
29	180010068	UDATHA HARSHAVARDHAN	BT	U. Harshavardhan
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32	180010071	BOMMEPALLI HARITHA	BT	B. Haritha
33	180010072	GAJJI SAI TEJASWINI	BT	G. Sai Tejaswini
34	180010073	N VENKATA PRASANNA SAI SUSHMITHA	BT	N. Venkata Prasanna Sai Sushmitha
35	180010076	THINDI PADMA	BT	T. Padma
36	180010077	RAYAVARAPU PRIYANKA CHOWDARY	BT	P. Priyanka
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38	180010080	SAI NIKHITHA NARRA	BT	S. Nikhitha
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40	180010086	PULAPA SAHITYA	BT	P. Sahitya
41	180010087	SURAM NIHARIKA	BT	S. Niharika
42	180010088	MANNAM BHUVANESWARI	BT	M. Bhuvan
43	180010089	MOHAMMAD MUNWAR	BT	M. Munwar
44	180010093	SINGAVARAPU HARINI	BT	S. Harini
45	180010094	DAGGUMATI BHAVYA	BT	
46	180010099	NADIKOTA GEETHIKA NAVYA SAI	BT	N. Geethika
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