

CN 085266

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MEMORANDUM OF UNDERSTANDING (MoU)
Providence Women's College, Malaparamba,
Kozhikode
And

ICAR – Indian Institute of Spices Research, Kozhikode

This agreement is made on this 20th day of May 2020, by and between Providence Women's College (Reaccredited with 'A+' Grade by NAAC), Malaparamba, Kozhikode, and granted College with Potential for Excellence, status, by the UGC.

and ICAR – Indian Institute of Spices Research, Kozhikode, a constituent body of Indian Council of Agricultural research (ICAR) under Department of Agricultural Research and Education, Ministry of Agriculture and Farmer's Welfare devoted to research on spices.

Areas of consensus:

The Agreement shall include, but not be limited to, the following types of collaborations:

- Joint educational, training and / or research activities
- Exchange of invitations to scholars (faculty, research personnel, and graduate students) for lectures, visit and sharing of experiences.
- Exchange of invitations to scholars for participation in conferences, symposia and seminars.
- Exchange of information in fields of interest to both parties.

NO. 480 Rs. 100/-
DATE 5.5.2020
SOLD TO
HUKUR STAMP VENDOR
KISHOR. P.P.
CIVIL STATION CALICUT-20

Principal Providence Womens College

Shivanur
Kozhikode





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- e) Exchange of faculty, research personnel, post graduate and undergone students for study and research as per existing norms of both parties.
- f) Practical training in pre-identified or otherwise selected field site as per existing norms of both the parties

Obligations / Responsibilities of the Parties:

- a) Both sides will maintain ongoing communication and circulate essential information in a timely manner
- b) Each party acts on its own behalf in all relations with a third party. Neither party will be responsible for any outside commitments of the other party.

This MoU shall become effective on the date, it is signed by the parties and shall be valid for five years. Both parties shall review the status of the MoU at the end of each five year period to determine any modification, whenever necessary. This MoU may be amended by mutual written agreement and maybe terminated at any time, by either party upon written notification signed by the competent authorities of the party initiating termination. Such notifications must be given to the other party atleast 6 months in advance from the effective date of termination.

No amendment or modification of the MoU, shall be valid unless the same is made in writing, by both the parties or their authorized representatives, and specifically stating the same to be amendment of the MoU. The modifications / changes shall become part of the MoU and shall be effective form the date on which they are made / executed, unless otherwise agreed to.

No. 421 Rs. 100/-

DATE 5.5.2020

SOLD TO
HUZUR STAMP VENDOR
KISHOR. P.P.
CIVIL STATION CALICUT-20

Principal Providence Womens College

Cheruvu
Kozhikode



In witness of, the parties hereto have caused this agreement to be executed by their duly authorized representatives, in two counterparts, each of which shall be deemed as original, as of the day and year first above written.

For and behalf of

Providence Women's College Kozhikode
673009

Signature

Name : Dr. (Sr.) Jaseena Joseph

Designation: **Principal**

Principal
Providence Women's College
Calicut - 9

Date

For and behalf of

ICAR-Indian Institute of Spices Research
Kozhikode 673012

Signature

Name : Dr. K Nirmal Babu

Designation : **Director**

Date

डा.के. निर्मल बाबू
Dr. K. Nirmal Babu
निदेशक Director
भारतीय मसाला फसल अनुसंधान संस्थान
Indian Institute of Spices Research
Indian Council of Agricultural Research
पी.ओ. मरिक्नु P.O. Marikunnu
कनिष्ठकोड-673012 Kozhikode-673012

WITNESS

Name & Signature :

1. Dr. Latha P (Panakkada),
Associate Professor

2. Dr. Minoo Divakaran,
IQAC Coordinator

WITNESS

Name & Signature

1.

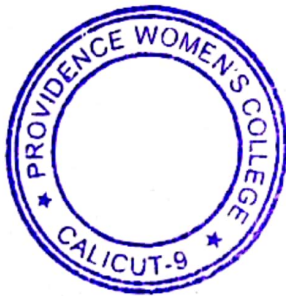
2.

1.

(Dr. D. PRASAD)

2.

(K.S. Koushnamurti)





PROVIDENCE WOMEN'S COLLEGE

COLLEGE WITH POTENTIAL FOR EXCELLENCE

Re-Accredited with grade A⁺ by NAAC

PROOF OF ACTIVITY UNDER MOU

**PROVIDENCE WOMEN'S COLLEGE
KOZHIKODE 9, KERALA**



PATHOLOGY LAB & FIELD VISIT'S REPORT

M.Sc. Botany 2020-21


DEPARTMENT OF BOTANY
PROVIDENCE WOMEN'S COLLEGE, KOZHIKODE 9, KERALA



CERTIFICATE

Certified that this is an authentic report of the field trips / study tours conducted by Ms. Athira Raveendran (Reg No. **PWATMBT005**) of IV Semester M.Sc. Botany, Providence Women's College, during 2020 - 21, as part of the curriculum of Fourth Semester of the M.Sc. Botany Programme of the University of Calicut.




Head
Department of Botany
Providence Women's College
Kozhikode-673009, Kerala

Pathology Lab & Field Visit at ICAR IISR, Kozhikode



REPORT OF FIELD WORK AND LAB VISIT FOR THE STUDY OF PLANT PATHOLOGY

VISIT TO ICAR IISR

The Indian Institute of Spices Research (IISR), a constituent body of Indian Council of Agricultural Research (ICAR) is a major Institute devoted to research on spices. In 1976, it was started as a Regional Station of the Central Plantation Crops Research Institute (CPCRI). Later on, NRCS, a National Research Centre for Spices was established in 1986 with its headquarters at Kozhikode, Kerala by merging the erstwhile Regional Station of CPCRI at Kozhikode and Cardamom Research Centre at Appangala, Karnataka. Realizing the importance of spices research in India this research centre was upgraded to Indian Institute of Spices Research on 1st July, 1995.

As part of curriculum we, the students of first semester MSc Botany visited IISR for a laboratory and field visit on 18th November 2020. Different sophisticated instruments were pooled in centralized laboratories under various divisions like pathology, molecular biology, biocontrol, nematology, plant protection, soil chemistry, biochemistry, microbiology etc. for efficient usage and monitoring. We visited the pathology laboratory first, where pathological studies of different species like pepper, cardamom, ginger, turmeric, nutmeg etc. were carried out. We were directed by Dr. Susheela, the Head of Pathology Division. She also gave an introduction to the facilities and works of the pathology division. Ms. Subila, research scholar briefed on the research works like studies on *Pythium* infection on black pepper.



We had the opportunity to visit the microbiology lab also. Mr. Navaneeth and Ms. Megha, research scholars explained their works on mycovirus. Demonstration of the use of various instruments was also done. From there we moved on to the Nematology laboratory. Scientist Dr.Saratha Ambal and research scholars gave a detailed account on the various infections caused by the Nematodes on spice crops.

Later we visited biocontrol laboratory, where we were given a good explanation on the biocontrol agent on various pathogenic infection on different spices. The two main species used as safe alternative to chemical fungicides - *Trichoderma harzianum* IISR-P26 (MTCC5179) and *Pochonia chlamydospora* (MTCC 5412) against plant parasitic nematodes were introduced to us. We came to know that Serpentine method was also another biocontrol method against pathogen. Scientists took us to the field and showed the infected crops grown there. We could see phytophthora infection on pepper, leaf spot diseases on ginger caused by *Phyllosticta zingiberi* etc. in the experimental field. We could see and study the symptoms associated with the diseases. We could also see the mass cultivation of IISR varieties of Pepper and had an awesome experience in the mist chamber. We had the opportunity to interact with Dr.Nirmal Babu, the Director of IISR. He explained about the new works carried out at IISR and motivated us with enlightening thoughts. We finished the laboratory visit and experimental fields visit by evening.

DISEASES OF SPICES



Leaf spot on ginger (IISR)



Bacterial wilt of ginger (Malaparamba)



Soft rot of ginger (Wayanad)



Quick wilt of pepperr (Wayanad)



Little leaf of pepper (Wayanad)



Phytophthora infection on pepper (Wayanad)

