

International collaboration data gathering for SDG of Rubus species:

UPR's experts from the Department of Horticulture and Department of Botany in collaboration with Dr. Boris Duralija (University of Zagreb, Croatia) are working on a project for nutritional and socio-economic uplift of indigenous communities of AJK by "Exploring the biodiversity of Rubus species in the state of Azad Jammu and Kashmir". This project was proposed for funding to HEC, under the National Research Programme for Universities in 2021 and was also extended for year 2022. During the initial phase of the project, the collection of Rubus species is completed from Neelum and Jhelum areas. Our researchers in collaboration with International researchers have collected data and published research article entitled "Evaluation of the Characteristics of Native Wild Himalayan Fig (Ficus palmata Forsk.) from Pakistan as a Potential Species for Sustainable Fruit Production". The National Research Program for Universities (NRPU) proposal cover sheet along with the published results of international collaboration on "Evaluation of the Characteristics of Native Wild Himalayan Fig (Ficus palmata Forsk.) from Pakistan as a Potential Species for Sustainable Fruit Production" is attached with the document.

International collaboration data gathering for SDG of black raspberries:

University of Poonch Rawalakot (UPR) experts at the Department of Horticulture and Department of Botany are working on the "Domestication of wildy grown black raspberries for exploiting their nutritional and commercial potential under climatic conditions of Rawalakot, Azad Jammu and Kashmir" along with their collaboration with Prof. Dr. Asghar Ali, School of Biosciences, Faculty of Science, University of Nottingham, Malaysia Campus. This project started in September 2021 and also extended for 2022. It is funded by the Endowment Fund, University of Agriculture, Faisalabad. Under the project, the experimentation plots are cultivated at the UPR. The Project brief report along with the international collaboration with the School of Biosciences, Faculty of Science, University of Nottingham, Malaysia Campus is attached.

1st Annual Progress Report for NRPU-20-16973

1. Project/PI particulars

Name of Principal Investigator	Dr. Mehdi Maqbool
Email & contact #	Email: mehdimaqbool@upr.edu.pk Mobile # +92 301 4366569
Department & University/Institute	Department of Horticulture, University of Poonch Rawalakot, Azad Jammu and Kashmir
Name & contact details of (Co-PI)	Dr. Khawaja Shafique Ahmad, Department of Botany, University of Poonch Rawalakot, Azad Jammu and Kashmir Mobile # +92 300 0578555 Email: ahmadks@upr.edu.pk Prof. Dr. Boris Duralija, Department of Pomology, Faculty of Agriculture, University of Zagreb, Croatia Tel. # + 385 1 2393726 Email: bduralija@agr.hr
Number & Title of Project	Project No.: 20-16973/NRPU/R&D/HEC/2021 Exploring the biodiversity of <i>Rubus</i> species for nutritional and socio-economic uplift of indigenous communities from the State of Azad Jammu and Kashmir
Project start Date	01-04-2022
Duration	36 months
Reporting Period	01-04-2022 to 31-03-2023
Completion Date	31-03-2025
Total Approved Budget of project	Rs. 3,649,800/-
Total Funds utilized (as per audit vetted expenditure statement)	Rs. 1,783,603/-



HIGHER EDUCATION COMMISSION

Research and Development Division

No: Ref No. 20-16973/NRPU/R&D/HEC/2021-2021

Creation Date: 17.05.22

1. Dr. Mehdi Maqbool,
Assistant Professor,
Horticulture,
University of Poonch, Rawalakot

SUBJECT: PROVISIONAL AWARD UNDER National Research Program for Universities - NRPU

Reference research project No 16973 entitled "Exploring the biodiversity of Rubus species for nutritional and socio-economic uplift of indigenous communities from the State of Azad Jammu and Kashmir" having total cost of Rs. 3649800/- and project duration of 36 months, submitted for funding by Dr. Mehdi Maqbool, University of Poonch, Rawalakot, (the Principal Investigator).

The Higher Education Commission (HEC) hereby awards Rs. 3649800/- (three million six hundred forty nine thousand eight hundred) to the University of Poonch, Rawalakot (the Grantee) for the above mentioned projects subject to the provision of following documents:

- Final revised proposal after incorporating reviewer's comments in letter & split, duly signed/endorsed by HoD, Director O RIC, Head of Institution (Vice Chancellor/Rector)
- A certificate duly signed by HoD and PI stating that reviewer's comments have been incorporated in the revised proposal (specimen attached)
- Revised Implementation Plan of the project after incorporating reviewer's suggestions if any Gantt Chart of Procurement Plan of the project

You are, therefore, requested to execute an agreement on stamp paper as per attached specimen and the same may be furnished to this office within 15 days of the issuance of this award. The award shall stand cancelled upon failure on your part to submit the agreement within the stipulated period of time. This award is subject to the Terms and Conditions of the Grant outlined in the specimen Grant Agreement.

Detailed breakup of budget is as under:

Budget Element	Total Budget PKR
PI: Dr. Mehdi Maqbool Assistant Professor Horticulture University of Poonch, Rawalakot	450000
Co-PI: Dr. Kh. Shafique Ahmed Assistant Professor	150000
PhD Student	575000
Total Consumable Supplies	1000000
Total Services Cost	400000
Total Travel Cost	900000
Total Budget (Direct Cost) - A	3475000
Total Overhead Cost	173800
G. Total Budget	3649800

Disbursement plan for the release of funds are as under

Item	%	Amount in Rs.	Remarks
1st installment	50%	1824900	Upfront payment
2nd installment	20%	729960	will be released subject to the satisfactory review of 1st Annual Report
3rd installment	20%	729960	will be released subject to the satisfactory review of 2nd Annual Report
Final installment	10%	364980	will be released after successful completion of the project
Total Approved Cost		3649800	

Sincerely

RDM Section,
R&D Division,
Higher Education Commission,
Islamabad

Copy for information to:

- Vice Chancellor, University of Poonch, Rawalakot
- The Director Finance, University of Poonch, Rawalakot
- The Director O RIC, University of Poonch, Rawalakot

Summary:

Field visits were conducted in year 2022 during peak flowering time in the study area of Muzaffarabad division of Azad Jammu and Kashmir for collection of specimens and recording morphological parameters during flowering and fruiting stages. Fresh specimens were collected and submitted to the Department of Botany, University of Poonch Rawalakot and to the Plant Taxonomy Department, Botanical Science Division, Pakistan Museum of Natural History, Islamabad for the morphological identification and confirmation of *Rubus* species. Samples were collected from all the three districts of Muzaffarabad Division including Neelum Valley (16 locations), Jehlum Valley (44 locations) and Muzaffarabad (44 locations). Five plants from each location were selected to record the morphological parameters. Total locations for the collection of plant specimens were 106. A total of 530 *Rubus* species were collected from 106 sites. Specimens of identified *Rubus* species were allotted voucher numbers and then submitted to the Department of Botany, University of Poonch Rawalakot, and also to the Department of Horticulture for future reference.

During field visits, plant specimens were collected with leaves, flowers and fruits. Each collected sample was given a site number and that number was labeled as fixed tag. Credentials i.e. documentation and information related to the tags were noted on the field book. Coordinates and altitudes were also noted using Garmin GPS (Model: GPS 60™).



Pictorial view of data collection during different field visits from Muzaffarabad division.

Dissemination of results

The results obtained so far were presented at following conferences at National level.

1. **Maqbool, M.,** N. Zahid, S.Z.A. Shah. 2022. Achieving sustainable nutrition with minor fruits under changing climatic scenarios. 7th International Conference on Climate Smart Agriculture: Innovations and Adaptations, organized by the Faculty of Agriculture, University of Poonch Rawalakot, Azad Jammu and Kashmir. June 15-17, 2022.



ENDOWMENT FUND SECRETARIAT
UNIVERSITY OF AGRICULTURE, FAISALABAD, PAKISTAN
UAF-US COLLABORATION FOR STRENGTHENING OF AGRI. ACADEMIA

Phone: 041-9201125, 9200161-170, Ext. 3604
Website: www.efsuaaf.org Email: efs@uaf.edu.pk

ANNUAL PROGRESS REPORT
(2nd year)

Project Identification No.

R	D	0	4	1	/	2	1
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Reporting period

From			To		
Day	Month	Year	Day	Month	Year
01	10	2022	30	09	2023

1. **Project Title: Domestication of wildy grown black raspberries for exploiting their nutritional and commercial potential under climatic conditions of Rawalakot, Azad Jammu and Kashmir**

Under component (*TT/RD/PC*): RD

2. **Name of Principal Investigator: Dr. Mehdi Maqbool**

Institution/Organization: University of Poonch Rawalakot, AJK

Postal Address: Department of Horticulture, University of Poonch Rawalakot, AJK

Telephone/Cell: 03014366569 E-mail: mehdimaqbool@upr.edu.pk

3. **Name of Co-Principal Investigator: Prof. Dr. Abdul Hamid**

Institution/Organization: University of Poonch Rawalakot, AJK

Postal Address: Department of Horticulture, University of Poonch Rawalakot, AJK

Telephone/Cell: 03008351562 E-mail: hamid40@gmail.com

4. **Overseas cooperating Scientists/Organization:**

Name: Prof. Dr. Asgar Ali

Institution/Organization: University of Nottingham Malaysia Campus

Postal Address: University of Nottingham Malaysia Campus, Semenyih, 43500, Selangor, Malaysia

E-mail: Asgar.Ali@nottingham.edu.my

5. **Project Starting Date & Duration (months): 01-10-2021 & 36 months**

6. **Project Status (ongoing/completed): Ongoing**

7. **Total Cost:** (Rs. in million): Rs. 2.199 million
 Total Release: Rs. 1.607 million Expenditure: Rs. 1.516 million
8. **Expenditure during the Reporting Period:** (Rs. in million)
 Total Release: Rs. 0.745 million Expenditure: Rs. 0.729 million



UNIVERSITY OF AGRICULTURE, FAISALABAD
ENDOWMENT FUND SECRETARIAT
 Ph. 041-9201125, Ext. 3604 & 3607 E-mail efs@unf.edu.pk

No. EFS/ 911-24
 Dated: 21-09-2021

NOTIFICATION

The Board of Directors, Endowment Fund in its meeting held on 01.09.2021 approved the following projects:

01

Title of Project	Feeding Scavenging Chicken for Deficient Nutrients- Proven Strategy to Improve Growth and Production of Rural Chicken		
Name of PI	Dr. Umar Farooq, Assistant Professor (TTS), UAF Sub Campus Toba Tek Singh		
Name of Co-PI	Dr. Muhammad Farooq Khalid, Assistant Professor, UAF Sub Campus Toba Tek Singh		
Project Location	Duration	Budget	
Toba Tek Singh	02 years	Rs. 1.417 million	
The BoD approved the project under the Technology Transfer Component and advised to include cost-benefit analysis.			

02

Title of Project	Agronomic Investigations under Spate Irrigated Cropping Systems of Punjab Pakistan		
Name of PI	Dr. Khuram Mubeen, Assistant Professor, Department of Agronomy, MNS-University of Agriculture Multan		
Name of Co-PI	Dr. Matlob Ahmad, Lecturer, Department of Agricultural Engineering and Technology, Ghazi University, Dera Ghazi Khan		
Project Location	Duration	Budget	
Hill Torrent Command Area Dera Ghazi Khan	03 years	3.220 Million	
The Board approved the project with the advice to constitute a committee for counseling, oversight and monitoring.			

03

Title of Project	Selection and Conservation of Elite Jamun (<i>Syzigium cumini</i> Skeels.) Genotypes		
Name of PI	Dr. Sami Ullah, Assistant Professor, Department of Horticulture MNS-University of Agriculture, Multan		
Name of Co-PI	Dr. Ahmad Sattar Khan, Associate Professor Institute of Horticultural Sciences, UAF		
Project Location	Duration	Budget	
Multan, Faisalabad	36 months	Rs. 1.982 Millions	
The Board approved the project under Technology Transfer Component like already completed projects for germplasm collection.			

04

Title of Project	Domestication of Wildly Grown Black Raspberries for Exploiting Their Nutritional and Commercial Potential Under Climatic Conditions of Rawalakot, Azad Jammu and Kashmir		
Name of PI	Dr. Mehdi Maqbool, Assistant Professor, Department of Horticulture, University of Poonch, Rawalakot, AJK		
Name of Co-PI	Prof. Dr. Abdul Hamid, Department of Horticulture, University of Poonch, Rawalakot, AJK		
Project Location	Duration	Budget	
University of Poonch, Rawalakot	36 months	Rs. 2.199 Million	
The Board approved the project.			

(PROF. DR. IJAZ AHMAD BHATTI)
EXECUTIVE DIRECTOR

Distribution:

1. All PIs of the projects
2. Principal of UAF Sub Campus Toba Tek Singh
3. Secretary to Vice Chancellor, Ghazi University, Dera Ghazi Khan
4. Secretary to Vice Chancellor, MNS-University of Agriculture Multan
5. Secretary to Vice Chancellor, University of Poonch, Rawalakot, AJK
6. Director ORIC, UAF
7. Secretary to Vice Chancellor, UAF
8. Resident Auditor, UAF
9. P.A. to Registrar, UAF
10. P.A. to Treasurer, UAF

Summary:

The fruit (berry) is commonly consumed as a food. The plant grows in disturbed areas, especially those that are logged or cut. It is also found in meadows, and near streams and lakes or roadways. Due to the ideal climatic conditions for its growth, black raspberry plants have been found wild under Rawalakot conditions. This research focused on understanding knowledge of black raspberry fruit growth and how to keep it fresh for longer periods of time. Therefore, the aim of current study was to find out the best stage of maturity and to figure out the best storage conditions after picking. By examining these maturity stages and testing different storage temperatures, valuable results were obtained to optimize the fruit quality and shelf life. In the first experiment, black raspberry fruits were observed at three different maturity stages (green, red, and black). The results indicated that the black stage of the fruit was the best in terms of nutritional value. This information could be important as it can guide the local farmers to harvest the fruit for the best taste and nutritional value. In the second experiment, fruits were stored at different temperature conditions including 0°C, 5°C and 10°C It was found that fruits stored at 5°C showed the best results in terms of maintaining the fruits quality over time.



Established wild black raspberry plants at Chotta Galla Farm

Updated Oct-2019



Data collection at Department of Horticulture Lab for storage experiment