



Metabolomics profiling for knowledge based breeding of crop plants.

Implementation for the period 2023-24 to 2025-26



MAHATMA PHULE KRISHI VIDYAPEETH
RAHURI, DISTRICT: AHMEDNAGAR
(MAHARASHTRA)

Univ. Reso.No.MTG-3(730)/222 /of 2023,

Date: 27/07/2023

Read: - 1) The Government of Maharashtra GR No. म.फु.वि. 1422/ प्र. क्र. 253/7-A,
Dated 31/03/2023.

2) No. HOD/BIOCHEM/ Res. Project /765/2023, dated 19/01/2023

3) Executive Council Resolution No. 14/339 Dated 15/06/2023

In the present scenario, pressure is building upon the plant breeders and plant biologists to come up with “smart crop varieties” that can thrive better on a wider range of climatic variability to tackle the food insecurities of future generations along with maintaining/exceeding quality parameters. The metabolomics is very powerful technology that decides the success or failure of other omic technology as the metabolites is the final molecule that decides the particular trait. Under salt and drought, these responses are triggered by metabolites. The higher levels of these metabolites impart tolerance/resistance to the crop plant under abiotic and biotic stresses. The basic information of metabolites accumulated in crop plant will certainly help to screen the crop germplasm for abiotic and biotic stresses tolerance and metabolite based identified germplasm will be helpful the crop breeder to develop better crop varieties tolerance/resistance to abiotic and biotic stresses.

The main goal of this project is to develop the metabolomic profile under biotic and abiotic stresses as adaptive biochemical markers and to identify climate resilient donor genotypes based on metabolome profile to be used in crop improvement programme.

After due deliberations and presentation before the Principal Secretary, Ministry of Agriculture and Minister of Agriculture, Government of Maharashtra, the 13 research project proposal have been approved. The research project proposal “Metabolomics profiling for knowledge based breeding of crop plants” is one of the project approved by the Government of Maharashtra.

The Government of Maharashtra has sanctioned an amount of Rs.1,15,00,000/- (Rupees One Hundred Fifteen lakh) only for implementation of project entitled “Metabolomics profiling for knowledge based breeding of crop plants” under Mahatma Phule Krishi Vidyapeeth, Rahuri at Department of Biochemistry, MPKV, Rahuri for a period of three years w.e.f.2023-24 to 2025-26.

RESOLUTION:

On approval accorded by the Government of Maharashtra vide GR under reference at Sr. No. 1 and Resolution passed by the Executive Council referred to at Sr. No.3 above, the



Hon.Vice-Chancellor is pleased to accord sanction for implementation of project entitled "Metabolomics profiling for knowledge based breeding of crop plants" under Mahatma Phule Krishi Vidyapeeth, Rahuri at Department of Biochemistry, MPKV, Rahuri for a period of three years w.e.f. 2023-24 to 2025-26, at a total cost not exceeding Rs. 1,15,00,000/- (Rupees One Hundred Fifteen lakh) only.

The terms and conditions prescribed by funding agency be followed scrupulously. The head wise allocation of funds is shown in **Annexure-A**.

Dr. Anil Arjunrao Kale, Professor and Head, Department of Biochemistry, MPKV, Rahuri shall act as Principal Investigator of this project and Dr. Prakash Kisan Lokhande, Associate Professor, Department of Biochemistry, MPKV, Rahuri shall act as Co-Principal Investigator of this project. The administrative, technical and financial control of the project shall rest with Professor and Head, Department of Biochemistry, MPKV, Rahuri and Assistant Registrar, Post Graduate Institute, MPKV, Rahuri shall be Drawing & Disbursing Officer. The overall control of the project shall rest with the Director of Research, MPKV, Rahuri.

Hon. Vice-Chancellor is further pleased to accord permission for filling up temporary posts of (one) Young Professional-I on consolidated pay as prescribed under the guidelines of the project and by following due procedure. This university will have no liability whatsoever towards the temporary posts engaged in this project.

This resolution is issued in concurrence of the Comptroller vide his reference No. 606, VC, dated- 05/07/2023.

Sd/-
Registrar
MPKV, Rahuri

F.w.cs. for information and necessary action to:-

- 1) The Secretary to Government, Agri., AHD & Fish. Department, Mantralaya, Mumbai-32.
- 2) The Member-Secretary, MCAER, 132/B, Bhamburda, Bhosalennagar, Pune-7.
- 3) The Director of Research/Instruction/Extn.Education, MPKV Rahuri.
- 4) The Dean, Faculty of Agriculture, MPKV Rahuri.
- 5) The Associate Dean (All).
- 6) The Nodal Officer, MPKV, Rahuri.
- 7) The Associate Director of Research, NARP (All).
- 8) The Heads of Departments (All).
- 9) The Comptroller/ The Planning Officer, MPKV Rahuri.
- 10) The Deputy Registrar (Admn.), MPKV Rahuri.
- 11) The Asstt. Comptroller (/II/III/IVY PAO, MPKV Rahuri.
- 12) The PA to Hon. Vice-Chancellor, MPKV Rahuri.


Deputy Registrar (Admn.)
MPKV Rahuri



Annexure-A

Headwise Allocation of funds for “Metabolomics profiling for knowledge based breeding of crop plants”

Financial layout of proposed budget

Sr. No.	Particulars	Approximate cost (Rs. Lakh)			
		First Year	Second Year	Third Year	Total
1	Non recurring equipment's*	92.49	-	-	92.49
	Total (A)				92.49
2	Recurring				
	Contractual young professional-I (1), Rs. 25,000/- per month	3.00	3.00	3.00	9.00
	Chemicals, consumables, glass wares, office stationery, sundry materials, AMC, POL, TA/DA, field and farm, over-head charges etc.	4.20	5.20	4.11	13.51
	Total (B)				22.51
	Total (A) +(B)				115.00

*** Details of list of Equipment facility**

Sr. No.	Particulars	Amount (Rs.)
1.	UV-Visible spectrophotometer UV-1900i	7,45,000
2.	Refractive index detector RID-20A for High Performance Liquid Chromatography (HPLC)	12,40,000
3.	Gas chromatography	29,85,000
4.	Real-Time PCR-96 well	15,40,000
5.	2D Gel electrophoresis unit: Isoelectric Focusing & Poly Acrylamide Gel Electrophoresis (IEF and Mini PAGE)	16,26,000
6.	Vacuum evaporator-Rota vapor	10,00,000
7.	Ice Flaker	1,13,000
	Total	92,49,000


Deputy Registrar (Admn.)
MPKV Rahuri

