

**GOVERNMENT OF INDIA**  
**MINISTRY OF AYUSH**

**LOK SABHA**

**UNSTARRED QUESTION NO. 2271**

**TO BE ANSWERED ON 10<sup>TH</sup> DECEMBER, 2021**

**RESEARCH ON MEDICINAL PLANTS**

**2271. SHRI PATEL HASMUKHBHAI SOMABHAI**

Will the Minister of **AYUSH** be pleased to state:

- (a) whether the research is being undertaken on various aspects of medicinal plants in the country and if so, the details thereof State-wise; and
- (b) the details of institutions involved in such research work, State-wise including Gujarat and the details of institutions involved in such research work?

**ANSWER**

**THE MINISTER OF AYUSH**

**(SHRI SARBANANDA SONOWAL)**

a) Yes, Sir, the researches on medicinal plants are being supported by different Ministries/Departments of Government of India *viz.* Ministry of Ayush, Ministry of Agriculture & Farmers' Welfare, Department of Science & Technology (DST), Department of Biotechnology (DBT) etc. under their concerned schemes/programmes.

Research Councils *viz.* Central Council for Research in Ayurvedic Sciences (CCRAS), Central Council for Research in Unani Medicine (CCRUM), Central Council for Research in Homoeopathy (CCRH) and Central Council for Research in Siddha (CCRS) autonomous organizations under the Ministry of AYUSH are engaged in research & development activities on medicinal plants used in concerned system of medicine. In addition, the National Medicinal Plants Board (NMPB), Ministry of Ayush, under its Central Sector Scheme on 'Conservation, Development and Sustainable Management of Medicinal Plants' is also supporting research & development projects on various aspects of medicinal plants to government as well as private universities/research institutions/organizations across the country. Details are placed at **Annexure-I**.

b) The state wise details of the institutions involved in such research work are placed at **Annexure-II**.

**State-wise details of research projects which are being undertaken on various aspects of medicinal plants:****1. National Medicinal Plants Board (NMPB)**

During last 05 years, NMPB has supported 82 projects based major research activities on various aspects such as:

<b>Sr. No.</b>	<b>Research areas</b>	<b>State</b>	<b>Number of projects</b>
1.	Survey, identification, characterization and conservation of medicinal plants.	Assam	2
		Delhi	1
		Himachal Pradesh	2
		Karnataka	2
		Tamil Nadu	2
		West Bengal	1
<b>Total</b>			<b>10</b>
2.	Post-harvest Management, assessment of heavy metals and integrated pest management	Andhra Pradesh	1
		Assam	1
		Gujarat	2
		Jammu & Kashmir	1
		Karnataka	4
		Madhya Pradesh	1
		Tamil Nadu	1
		Uttar Pradesh	2
West Bengal	1		
<b>Total</b>			<b>14</b>
3.	Varietal development and prospect of marketing	Assam	2
		Gujarat	1
		Kerala	1
		Uttar Pradesh	1
<b>Total</b>			<b>5</b>
4.	Genotype Identification, genetic improvement and germplasm collection & conservation	Himachal Pradesh	1
		Uttar Pradesh	2
		Uttarakhand	1
		Gujarat	1
		Karnataka	1
		West Bengal	1
<b>Total</b>			<b>8</b>
5.	Development of agro techniques, standardization of nursery techniques and cultivation practices	Assam	1
		Gujarat	1
		Jammu & Kashmir	1
		Himachal Pradesh	2
		Kerala	2
		Karnataka	1
		Uttarakhand	1
West Bengal	2		
<b>Total</b>			<b>11</b>

6.	In-vitro propagation studies, micro-propagation chemical & molecular profiling and phyto-chemicals evaluation	Arunachal Pradesh	1
		Himachal Pradesh	2
		Jammu & Kashmir	1
		Karnataka	1
		Kerala	1
		Maharashtra	2
		Rajasthan	3
		Punjab	1
		Telangana	2
		Tamil Nadu	1
		Uttarakhand	2
		West Bengal	3
Uttar Pradesh	1		
<b>Total</b>			<b>21</b>
7.	Bioactivity guided fractionation studies	Assam	1
		Delhi	1
		Kerala	1
		Tamil Nadu	1
		West Bengal	2
<b>Total</b>			<b>6</b>
8.	Intercropping and sustainable production technology	Kerala	1
		Maharashtra	1
<b>Total</b>			<b>2</b>
9.	Documentation and development of geo-tag digital library	Himachal Pradesh	1
<b>Total</b>			<b>1</b>
10.	Finding out substitute and authentication of raw drugs	Gujarat	1
		Kerala	1
		Odisha	1
		Punjab	1
<b>Total</b>			<b>4</b>
<b>Sub Total</b>			<b>82</b>

## **2. Central Council for Research in Ayurvedic Sciences (CCRAS)**

CCRAS, M/o Ayush is involved in research activities such as medicinal plant research (Medico-ethno botanical survey, pharmacognosy and tissue culture), Drug Standardization, Pharmacological Research, Clinical Research, Literary Research & Documentation. The activities are carried out through 30 institutes/ Centres/ Units located all over India and also through collaborative studies with various universities, hospitals and institutes.

<b>S.No.</b>	<b>Discipline/Aspects</b>	<b>Details</b>	<b>Number of projects</b>
1.	Clinical Research	1. No. of projects undertaken	107 (71 completed & 36 ongoing)
		2. Classical drug validated for safety & efficacy	52
		3. New Drug developed	03
2.	Medicinal Plants	1. No. of projects undertaken	48 projects (21 projects

	Research		completed)
		2. Pharmacognostical standards developed	12 projects
		3. Cultivation and in-vitro propagation	4 project
		4. Medico-Ethno Botanical Survey conducted	5 projects
3.	Drug Standardisation & Phyto-Chemistry	1. No. of projects undertaken :	Total Projects -30
		2. No. of quality standard developed	80
4.	Fundamental & Literary Research	1. No. of projects undertaken:	29 (16 completed)
		2. No. of books translated/ Published	44 books and 8 booklets out of which 08 books based on Fundamental/ Literary Research have been published and 02 translations of Classical Ayurveda books have been published
		3. No. of diagnostic tool developed	07
5.	Pharmacological studies/Biological Activities and Safety studies	1. No. of projects undertaken	13 completed & 24 ongoing

### **3. Central Council for Research in Unani Medicine (CCRUM)**

CCRUM is undertaking research on various aspects of medicinal plants in the country used in Unani System of Medicine. A total number of 206 projects on preclinical safety and toxicity studies, 193 projects under clinical research programme including clinical validation /New drug development/ fundamental research are supported. These Projects covering 1229 formulations and 298 single drugs under Drug standardization programme including development of National Formularies of Unani Medicine by inclusion of Unani Classical formulations, Physico-chemical Standards of Unani Formulations, Unani Pharmacopoeia of Single drugs and Compound Formulations and Chemical Investigation of Unani single drugs. 146 projects related to Literary Research Programme. More than 9,500 Folklore claims have been documented & published in the form of 09 volume of Books.

### **4. Central Council for Research in Homoeopathy (CCRH)**

There are 04 institutes of CCRH which are working on the various aspect of medicinal plants and details thereof –

S. No.	State	Institutes/Units	Type of Research work undertaken
1.	Uttar Pradesh-	Dr. D.P. Rastogi, Central Research Institute for	Drug standardization work in following aspects: 1. Pharmacognostical studies 2. Physico chemical studies

		Homoeopathy (DDPRCRI), Noida (Uttar Pradesh).	3. Pharmacological studies
2.	West Bengal	Dr. Anjali Chatterjee Regional Research Institute (H), Kolkata	Drug standardization work in following aspects (from 2019 onward): 1. Physico chemical studies 2. Pharmacological studies
3.	Tamil Nadu	Centre of Medicinal Plants Research In Homoeopathy, Ooty	Cultivation, survey, collection and maintenance of germplasm of exotic and indigenous plants used in homoeopathy as well as developing agro-techniques for the same.
4.	Telangana	Drug Standardization Unit (H), Hyderabad	Drug standardization work in following aspects: 1. Pharmacognostical studies 2. Physico chemical studies (till 2019)

### **5. Central Council for Research in Siddha (CCRS)**

CCRS, Ministry of Ayush is conducting research in Siddha system of medicine. The research programme of CCRS mainly focuses on clinical research including safety and efficacy studies of Siddha drugs, validation of the fundamental principles, drug standardization and quality control, survey and cultivation of medicinal plants and literary research.

a. Institutes-wise details of Intra Mural Research (IMR) on medicinal plants (Completed Projects)-

<b>S.No.</b>	<b>Title of the Project</b>	<b>Institute</b>	<b>State</b>
1.	Assessment of awareness and usage of Siddha medicine among the patients reporting to selected Siddha OPDs in Puducherry & Karaikkal regions.	Siddha Regional Research Institute, Puducherry	Puducherry
2.	Database of Siddha preparations for certain diseases mentioned in the enlisted literatures of drugs and cosmetics act 1940.	Siddha Central Research Institute, Chennai	Tamil Nadu
3.	Digitization and Compilation of Herbarium and Folklore Claims at Survey of Medicinal Plants Unit- Siddha, Palayamkottai.	Siddha Medicinal Plants Garden, Mettur Dam	Tamil Nadu
4.	Anti-hyperlipidemic activity of D5 choornam in Wistar Rats	Siddha Central Research Institute, Chennai	Tamil Nadu
5.	Status of labeling, drug information and branding in marketed anti-diabetic Siddha formulations: Cross-sectional study: Chennai, Tamil Nadu, 2016	Siddha Central Research Institute, Chennai	Tamil Nadu
6.	Scientific validation of Serankottai ( <i>Semecarpusanacardium</i> ) before and after purification in Siddha system of medicine	Siddha Central Research Institute, Chennai	Tamil Nadu

b. Institutes-wise details of Intra Mural Research (IMR) on medicinal plants (On-going Projects)-

S.No.	Title of the Project	Institute	State UT-wise
1.	Multi-centric single arm prospective open trial to check the safety and efficacy of a classical Siddha formulation RasagandhiMezhugu in KaruppaiNarthasaiKattigal (Fibroid Uterus) among women (25-45 years) attending CCRS-research institutes/unit (MERRYFUL)	Siddha Central Research Institute, Chennai Siddha Clinical Research Unit, Palayamkottai Siddha Regional Research Institute, Puducherry Siddha Regional Research Institute, Thiruvananthapuram	Tamil Nadu Kerala Puducherry
2.	Pre-Clinical Studies to evaluate the anti-viral properties of MAM	Siddha Clinical Research Unit, New Delhi	Delhi
3.	Evaluation of anti-cancerous activity of sengathariennai in Invitro method	Siddha Clinical Research Unit, Bengaluru	Karnataka
4.	Qualitative and Quantitative Analysis of Lead in 'Lead containing Plants' – A Scientific validation of Siddha claim.	Siddha Regional Research Institute, Thiruvananthapuram	Kerala
5.	A pilot open single arm clinical trial to evaluate the efficacy of SirupeelaiKudineer in Diabetic Nephropathy	Siddha Regional Research Institute, Thiruvananthapuram	
6.	A pilot study to evaluate the safety and efficacy of SivanarvembuKuzhiThailam (SVK) in the management of Kalanjagapadai (Psoriasis)	Siddha Regional Research Institute	Puducherry
7.	Pharmacological evaluation of Siddha herbal formulations AyaPoonagaChenduram, SenthilChooranam and their combination	Siddha Central Research Institute, Chennai	Tamil Nadu
8.	A Siddha polyherbal formulation (NilappanaiChooranam) in the management of Oligospermia (Vindhanukuraipadu)	Siddha Central Research Institute, Chennai	Tamil Nadu
9.	Vernacular Name Encyclopaedia of Siddha Drugs mentioned in Siddha MateriaMedica (Gunapadam) (VERNAES)	Siddha Central Research Institute, Chennai	Tamil Nadu
10.	Medico Ethno Botanical Study of Palamalai- Salem District	Siddha Medicinal Plants Garden, Mettur Dam	Tamil Nadu
11.	Hepatoprotective activity of <i>Fluggeavirosa</i> against chemical induced liver damage in Rats.	Siddha Central Research Institute, Chennai	Tamil Nadu
12.	Alternative therapy for diabetic retinopathy / cataract of	Siddha Central Research Institute, Chennai	Tamil Nadu

	<i>Fluggeavivrosa</i> in rats.		
13.	Toxicity studies of NathaichooriChooranam.	Siddha Central Research Institute, Chennai	Tamil Nadu
14.	Nephroprotective effect of <i>Sphreanthusamarathoides</i> Burm.f. against Gentamycin induced nephrotoxicity in Rats	Siddha Central Research Institute, Chennai	Tamil Nadu
15.	Evaluation of anti-diabetic activity of <i>Argyreiasericea</i> Dal zell against streptozotocin induced diabetes in Rats.	Siddha Central Research Institute, Chennai	Tamil Nadu
16.	Isolation of chemical marker from selected plants used in Reproductive and Child Health.	Siddha Central Research Institute, Chennai	Tamil Nadu
17.	Analysis of inorganic composition of selected plants used in Siddha system.	Siddha Central Research Institute, Chennai	Tamil Nadu
18.	Qualitative and Quantitative Analysis of Chembu (copper) in 'Chembu containing Plants' – A Scientific validation of Siddha claim	Siddha Central Research Institute, Chennai	Tamil Nadu
19.	Pre-clinical safety and efficacy of nunakadugu (internal medicine) and nunathailam (external medicine) in venpadai (Vitiligo)	Siddha Central Research Institute, Chennai	Tamil Nadu
20.	Metabolomic profiling and Identification of Principle Components from herbals used in Siddha System for Cognitive disorders using multivariate statistical analysis	Siddha Central Research Institute, Chennai	Tamil Nadu
21.	Sarakkuvaippu of a poly herbal formulation with Abini-like properties by Siddha methodology of Konganarar.	Siddha Central Research Institute, Chennai	Tamil Nadu
22.	A survey on the Ethno-medicinally important plants for common ailments in Tiruppur district, Tamil Nadu	Siddha Medicinal Plants Garden, Mettur Dam	Tamil Nadu
23.	An open single arm clinical trial to evaluate efficacy of venpoosanighritham in the management of leucorrhoea(VellaiNoi) caused by candida albicans	Siddha Central Research Institute, Chennai	Tamil Nadu
24.	Development of DNA based markers for some substitute / adulterant / controversial Siddha medicinal plants	Siddha Central Research Institute, Chennai	Tamil Nadu
25.	Pharmacognostic exploration of	Siddha Central Research Institute,	Tamil Nadu

	under explored medicinal plants of Tamil nadu	Chennai	
26.	In-vitro and in-vivo studies to explore the beneficial effect of D5 chooranam on mice model of obesity	Siddha Central Research Institute, Chennai	Tamil Nadu
27.	Safety and Cardioprotective effect of SwasaKudori in rats	Central Council for Research in Siddha, Chennai	Tamil Nadu
28.	Toxicity and in-vivo efficacy studies of NilavembuKudineer	Central Council for Research in Siddha, Chennai	Tamil Nadu
29.	Sub - acute toxicity and chronic toxicity of standardized aqueous extract of Eclipta alba Linn	Siddha Central Research Institute, Chennai	Tamil Nadu

## **6. Department of Biotechnology (DBT)**

The DBT has been implementing a programme on Translational Research for Developing Products and Processes from Medicinal and Aromatic Plants by funding R&D projects at various institutions / universities / other organizations with an objective to utilize the tools and techniques of biotechnology for identification of elite material and their multiplication, chemical and molecular characterization, production of secondary metabolites, developing standardized, efficacious and safe herbal products (both in AYUSH mode as well as phytopharmaceutical drugs), isolation and characterization of novel bioactives with therapeutic potential, generating genomic resources and studying biosynthetic pathways in important medicinal and aromatic plants. Under Special Programme being implemented in North East Region, research projects have been supported in the areas of screening of endemic medicinal plants of various diseases such as cancer, diabetes, anti-microbial resistance etc.; characterization and inventorization of the germplasm, captive cultivation of selected medicinal plants of NER, standardization of extracts, development of polyherbal formulations, isolation and characterization of bioactive compounds etc.

## **7. Indian Council of Agricultural Research**

ICAR-Directorate of Medicinal and Aromatic Plants Research (ICAR-DMAPR) located at Anand, Gujarat conducts basic, applied and adaptive research on medicinal and aromatic plants on 11 mandated crops viz. Aloe vera, Guggal, Senna, Isabgol, Aswagandha, Giloe, Safed musli, Lemongrass, Palmarosa, Salaparni and Satavari. Presently, DMAPR is maintaining 2168 germplasm accessions of 16 species of MAPs and 331 accessions of Betelvine as given in Table 1. In addition, 3915 number of accessions of 46 medicinal and aromatic plants are being maintained at 26 ICAR-All India Coordinated Research Projects (ICAR-AICRP) centres at different Agro-ecological Zones of the country. These centres develop Good Agricultural Practices (GAP) of medicinal plants which are brought under cultivation and commercially important.

**Germplasm of medicinal and aromatic plants maintained at ICAR-DMAPR/AICRPs (2019-20)**



S. No.	Species	Germplasm maintained
1	<i>Aloe spp.</i>	108
2	<i>Andrographispaniculata</i>	150
3	<i>Asparagus</i>	89
4	<i>Cassia angustifolia</i>	267
5	<i>Chlorophytumborivilianum</i>	87
6	<i>Commiphorawightii</i>	225
7	<i>Cymbopogon spp.</i>	48
8	<i>Desmodiumgangeticum</i>	120
9	<i>Gymnemasylvestre</i>	88
10	<i>Plantago ovata</i>	161
11	<i>Tinosporacordifolia</i>	52
12	<i>Costusspeciosus</i>	15
13	<i>Withaniasomnifera</i>	275
14	<i>Ocimum spp.</i>	416
15	<i>Hemidesmusindicus</i>	15
16	<i>Cassia tora</i>	52
A	Total	2168
15	<i>Betelvine</i>	331
	*At AICRP centres	3915
	Total (A+Betelvine+AICRP)	6414

\*Germplasm of 46 medicinal and aromatic plants maintained at 26 ICAR-AICRP centres

## 8. Department of Science & Technology (DST)

Details of Institution Working on Various Aspects of Medicinal Plants-

S.No.	Title	Name of University	State
1.	Computational dissection and validation of traditional medicinal plant system of Manipur	Manipur University, Dept. Of Biotechnology, Manipur, Canchipur, Imphal – 795003	Manipur
2.	Socio-Economic Upliftment high Altitude Farmers of Himachal Pradesh Through Transfer of micropropagation Technologies for High Value Medicinal Herbs	Jaypee University of Information Technology, Wagnaghat, Solan, HP-173 234	Himachal Pradesh
3.	Development of Plant based Synergistic Natural supplement and its Pharmacological Validation to Alleviate Gouty Arthritic Conditions	CSIR- National Botanical Research Institute, Lucknow – 226001	Uttar Pradesh
4.	Identification of elite chemotype (s) of <i>Plumbagozeylancia</i> Linn, Collected of India and evaluation of biological potential of elite germplasm	CSIR- National Botanical Research Institute, Lucknow – 226001	Uttar Pradesh
5.	Scientific validation of anti-malarial formulation from mishmi community (Arunachal) incorporating an endemic plant <i>Coptisteeta</i> Wall	CSIR- Central Institute of Medical and Aromatic Plants, Near Kukrail Picnic Spot, Lucknow - 226015	Uttar Pradesh

**State-wisedetails of the institutions where research are being carried out-****1. National Medicinal Plants Board (NMPB)**

SNo	Project no.	Details of Institutions
1.	Andhra Pradesh	Deptt. Of Biotechnology, VikaramaSimhapuri University, Dargamitta, Nellore, A.P. 524003
2.	Arunachal Pradesh	CSIR-North East Institute of Science and Technology, Itanagar; CSIR-NEIST Branch Itanagar, Naharlagun, Arunachal Pradesh - 791110,
3.	Assam	University of Asian Institute of Management and Technology /Guwahati, R.G. Barua Road, Guwahati-781021, Assam. Assam Agricultural University, Jorhat-785013, Assam.
4.	Gujarat	Tissue Culture and Cryopreservation Unit, ICAR- National Bureau of Plant Genetics Resources, New Delhi- 110012, Gujarat Ayurveda University, Jamnagar-361008, Gujarat. ICAR- Directorate of Medicinal and Aromatic Plants Research, Boriavi, Anand-387310, Gujarat. The Maharaja Soyajirao University of Baroda, Vadodara - 390002. Tamil Nadu Agricultural University- Coimbatore-641003 TNAU.
5.	Himachal Pradesh	Himalayan Forest Research Institute, Conifer Campus, Panthaghati, Shimla-171009, Himachal Pradesh. ICAR- NBPGR, Regional Station, Phagli, Shimla, H.P., 171004. Department of High Altitude Biology (HAB) Division, Palampur, Himachal Pradesh-176061. Dr. YS Parmar University of Horticulture & Forestry, Nauni, Solan 173230 (HP)
6.	Jammu & Kashmir	National Research Institute of Sowa-region, Leh, Ladakh.
7.	Kerala	School of Biotechnology, University of Jammu, Jammu-180006.
8.	Karnataka	AryaVaidyaSala, Kottakkal-676503, Kerala. Kerala Forest Research Institute, Peechi-680653, Kerala University of Agricultural Sciences, Dharwad-580005, Karnataka. Institute of Wood Science & Technology, Bangalore-560003, Karnataka. Deptt. of R&D, Natural Remedies Pvt. Ltd., Bangalore-560100, Karnataka. Ashoka Trust for Research in Ecology and the Environment Conservation Genetics Lab, Bengaluru 560064 (ATREE). Institute of Horticultural Research (IIHR), Hessarghatta lake (PO), Bangalore-560089,
9.	Madhya Pradesh	ICAR- Central Institute of Agricultural Engineering, NabiBagh, Berasia Road, Bhopal, Madhya Pradesh-462038.
10.	Maharashtra	Poona College of Pharmacy, BharatiVidyapeeth Deemed University, Pune, Maharashtra. Plant Tissue Culture Division, CSIR-National Chemical Laboratory, Dr. HomiBhaba Road, Pashan, Pune-411008.

		ICAR-National Research Centre on Pomegranate, NH-65, Solapur-Pune Highway, Kegaon, Solapur-413255, Maharashtra.
		Dr. PanjabraoDeshmukhKrishiVidyapeeth, Akola-444104, Maharashtra.
11.	Manipur	Institute of Bioresources and Sustainable Development (IBSD), Takyelpat Institutional Area, Imphal-795001, Manipur.
12.	Odisha	Plant Pathology and Microbiology Division, Regional Plant Resource Centre, Nayapalli, Bhubaneswar-751015, Odisha.
13.	Rajasthan	Arid Forest Research Institute, New-Pali Road, Jodhpur-342005, Rajasthan.
		Department of Botany, Jai Narain Vyas University (JNVU), Jodhpur-342005, Rajasthan.
		Department of Biosciences, Manipal University, Village and Post-Dehmi, Kalan, Jaipur-303007, Rajasthan.
14.	Puducherry	Department of Botany, KanchiMamunivar Centre for postgraduation studies, Puducherry, India PIN-605008
15.	Punjab	Department of Pharmaceutical Science & Technology, Maharaja Ranjit Singh Punjab Technical University, Bathinda, Punjab.
16.	Telangana	National Institute of Animal Biotechnology (NIAB), Hyderabad, Telangana- 500032
		Agricultural college, Aswaraopet, Khammam (District), Telangana-507301.
		Deptt. of Biotechnology, School of Life Sciences, VELS University, Chennai-600117, Tamil Nadu.
17.	Tamil Nadu	Deptt. of Centre for advanced research in Indian system of Medicine School of chemical and Biotechnology, SASTRA University, Thirumalaisamudram, Thanjavur-613401, Tamil Nadu.
		Institute of Forest Genetics and Tree Breeding (IFGTB), Coimbatore – 641 002, Tamil Nadu.
		Department of forestry, land use and climate change division, Coimbatore-641002, Tamil Nadu
18.	Uttar Pradesh	Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow-226015, Uttar Pradesh.
		Banaras Hindu University, Department of Botany, Institute of Science, B.H. U., Varanasi-221005
19.	Uttrakhand	Forest Research Institute, P.O., IPE, Kaulagarh Road, Dehradun-248195 Uttrakhand.
		Department of Forestry, Ecology/ Climate Change and Policy Division, Dehradun-248006, Uttrakhand.
		UttrakhandAyurved University, Harrawala, Dehradun-248001, Uttrakhand,
		Forest Pathology Division, Forest Research Institute, Dehradun-248006
		G. B. Pant National Institute of Himalayan Environment and Sustainable Development (GBPNIHESD), Srinagar Garhwal - 246174
20.	West Bengal	Department of Genetics and Plant Breeding, Uttar BangaKrishiViswavidyalaya, Pundibari, Coochbehar-736165, West Bengal.
		Department of Centre for Healthcare Science and Technology, Indian Institute of Engineering Science and Technology (Former BESU),

	Shibpur, Howrah-711103, West Bengal.
	AICRP on Medicinal & Aromatic Plant and Beetevine, AICRP on Medicinal & Aromatic Plant and Betelvine, Directorate of Research, Bidhan Chandra KrishiViswavidyalaya (BCKV), Kalyani-741235, W.B.
	Department of Instrumentation & Electronics Engg., Jadavpur University, Salt Lake Campus, Block LB, Sector III, Kolkata-700098
	Cancer Biology and Inflammatory Disorder Division CSIR-Indian Institute of Chemical Biology, Kolkata-700032, West Bengal.

## **2. Central Council for Research in Ayurvedic Sciences (CCRAS)**

These above research activities are being conducted through 30 research institutes across the country including Gujarat as per the research protocols.

<b>State</b>	<b>Name of the Institutes/Centres/Units</b>
Andhra Pradesh	Regional Ayurveda Research Institute, Vijayawada-520015
Arunachal Pradesh	Regional Ayurveda Research Institute, Itanagar -791111
Andaman and Nicobar Islands	Regional Ayurveda Research Institute, Port Blair – 744101
Assam	Central Ayurveda Research Institute Beltola, Guwahati-781028
Bihar	Regional Ayurveda Research Institute, D Block, Rajindra Memorial Res., Institute Building, AgamKuan, Patna-800007
Delhi	Central Ayurveda Research Institute, Road No.66, Punjabi Bagh, New Delhi - 110026
Goa	Regional Ayurveda Research Institute for Mineral and Marine Medicinal Resources, Goa
Gujarat	Regional Ayurveda Research Institute Asarwa, Ahmedabad-380016
Himachal Pradesh	Regional Ayurveda Research Institute, Gandhi Bhawan, Mandi-175001
Jammu & Kashmir	Regional Ayurveda Research Institute, JDA Housing Colony, Ban Talab, Rajender Nagar, Jammu-181123
Karnataka	Central Ayurveda Research Institute, Bengaluru
Kerala	National Ayurveda Research Institute for Panchakarma, Cheruthuruthy- 679531
	Regional Ayurveda Research Institute, Poojapura, Trivandrum-695012
Madhya Pradesh	Regional Ayurveda Research Institute, Amkho, Gwalior-474009
Maharashtra	Raja RamdeoAnandilalPodar (RRAP) Central Ayurveda Research Institute, RA Podar College, Worli, Mumbai-400018
	Regional Ayurveda Research Institute, NIT Complex, Nandanwan, Nagpur-440009
	Regional Ayurveda Research Institute, Pune- 411038
Nagaland	Regional Ayurveda Research Centre, Dimapur (Nagaland) - 797112
Orissa	Central Ayurveda Research Institute, Bharatpur, Bhubaneswar,

	Odisha-751003
Punjab	Central Ayurveda Research Institute, MotiBagh Road, Patiala-147001
Rajasthan	M.S. Regional Ayurveda Research Institute, Indira Colony, Bani Park, Jhotwara Road, Jaipur-302016.
Sikkim	Regional Ayurveda Research Institute, Tadong, Gangtok -737102
Tamil Nadu	Dr. AchantaLakshmipati Regional Ayurveda Research Institute, VHS Campus, TTTI Post, Chennai-600113
	Captain Srinivasa Murthy Central Ayurveda Research Institute, Chennai - 600106.
Telengana	National Centre of Indian Medical Heritage, Hyderabad - 500036
Tripura	Regional Ayurveda Research Centre, 135, Ramnagar Road, No. 4 Opp. of Raj Bhandar, Agartala, Tripura - 799002
Uttar Pradesh	Regional Ayurveda Research Institute, Indira Nagar, Lucknow-226016
	Regional Ayurveda Research Institute , Jhansi - 284003
Uttarakhand	Regional Ayurveda Research Institute , Thapla, Ranikhet-263645
West Bengal	Central Ayurveda Research Institute, 4 CN Block, Sector V, Bidhan Nagar, Kolkata-700091

### **3. Central Council for Research in Unani Medicine (CCRUM)**

The Council has a network of 22 Institutes/Centres/Unit across the country.

S.No.	State	Name and address of the institutes
1.	Andhra Pradesh	Clinical Research Unit , Dr. Abdul Haq Unani Medical College, 40/23,Park Road,Kurnool-518 001 (Andhra Pradesh)
2.	Assam	Regional Research Centre (RRC), S.M. Dev Civil Hospital, Silchar -788 001(Cachar) Assam
3.	Bihar	Regional Research Institute of Unani Medicine, Guzri, Patna City, Patna- 800 008 (Bihar)
4.	Delhi	Regional Research Institute of Unani Medicine, D-11/1, AbulFazal Enclave, Jamia Nagar, Okhla, New Delhi - 110 025.
		<b>(Extension Centre of RRIUM, New Delhi)</b> Unani Medical Centre, Dr. RML Hospital, New Delhi - 110 001
		<b>(Extension Centre of RRIUM, New Delhi)</b> Unani Speciality Centre, Dr.DeenDayalUpadhaya Hospital, New Delhi - 110 064
		<b>(Extension Centre of RRIUM, New Delhi)</b> Unani Medical Centre, Safdarjung Hospital New Delhi - 110 029
		<b>AUYSH wellness Center</b> , President Estate, New Delhi 110004
		<b>Integrated AYUSH Clinic</b> All India Institute of Ayurveda, SaritaVihar New Delhi-110076
		H. A. K. Ins. of Lit.& Hist. Res. in U. Med., (Erstwhile Literary Research Institute of Unani Medicine)Dr. M. A. Ansari Health Centre, JamiaMilliaIslamia, Okhla, New Delhi - 25
Drug Standardization Research Unit, 61-65 Institutional Area Opp. D Block Janakpuri New Delhi		
5.	Jammu & Kashmir (UT)	Regional Research Institute of Unani Medicine, University of Kashmir Campus, Hazrat Bal, Srinagar - 190 006 (Jammu &Kashmir)
6.	Kerala	Clinical Research Unit (Unani), Kurupatil Nina Memorial, Near Panchayat Office, P. O. Edathala (N) - 683 564, Alweye, Kerala

		Extension Research Centre for Unani (Clinical Research Unit, Edathala) Pattiam Gram Panchayat, Kannur, Kerala
7.	Karnataka	Clinical Research Unit (Unani), National Institute of Unani Medicine, Kottigepaliya, Magadi Main Road, Bengaluru – 560 091 (Karnataka)
8.	Madhya Pradesh	Clinical Research Unit (Unani), Department of Pharmacology, Gandhi Medical College, Bhopal – 462 001 (M.P.) Clinical Research Unit (Unani), S. H. Unani Tibbiya College, Ganpati Naka, Burhanpur – 450 331 (M.P.)
9.	Maharashtra	Regional Research Institute of Unani Medicine, J.J. Hospital Compound, (Behind Eye Bank), Byculla, Mumbai – 400 008 (Maharashtra)
10.	Odisha	Regional Research Institute of Unani Medicine, Chandbali Bypass Road, Near Rural Police Station, Bhadrak – 756 100 (Orissa)
11.	Tamil Nadu	Regional Research Institute of Unani Medicine, 1, West Meda Church Street Royapuram, Chennai – 600 013 (Tamil Nadu)
12.	Telangana	National Research Institute of Unani Medicine for Skin Disorders (Erstwhile Central Research Institute of Unani Medicine) Opp. E.S.I., Hospital, A.G. Colony Road, Erragadda, Hyderabad – 500 8
13.	Uttar Pradesh	Central Research Institute of Unani Medicine, Post & village, BasahaKursi Road, Lucknow – 226 026 (Uttar Pradesh) Regional Research Institute of Unani Medicine, Shah Jahan Manzil, Aligarh Muslim University, Aligarh – 202 001 (Uttar Pradesh) Drug Standardization Research Institute, PLIM, Building, Opp. ‘M’ Block, Sector-23, Kamla Nehru Nagar, Ghaziabad (Uttar Pradesh) Regional Research Centre (RRC), B-501/4, G.T.B. Nagar, Opp. Dulhan Palace, Kareli, Allahabad – 211 016 (Uttar Pradesh) Clinical Research Unit (Unani), Cantonment General Hospital (Sotiganj) Begum Bridge, Meerut (Uttar Pradesh) Chemical Research Unit, Department of Research in Unani Medicine Near Office of Dean, Faculty of Science, A.M.U. Aligarh - 202002
14.	West Bengal	Regional Research Institute of Unani Medicine, First Floor, 250A/29, G.T. Road (North) Near Jaiswal Hospital, Liluah, Howrah - 711201

#### **4. Central Council for Research in Homoeopathy (CCRH)**

There are 04 institutes of CCRH which are working on the various aspect of medicinal plants and details thereof -

S. No.	State	Institutes/Units
1.	Uttar Pradesh-	Dr. D.P. Rastogi, Central Research Institute for Homoeopathy (DDPRCRI), Noida (Uttar Pradesh).
2.	West Bengal	Dr. Anjali Chatterjee Regional Research Institute (H), Kolkata
3.	Tamil Nadu	Centre of Medicinal Plants Research In Homoeopathy, Ooty
4.	Telangana	Drug Standardization Unit (H), Hyderabad

#### **5. Central Council for Research in Siddha (CCRS)**

a. Institutes-wise details of Intra Mural Research (IMR) on medicinal plants (Completed Projects)-

S.No.	State	Institute
1.	Puducherry	Siddha Regional Research Institute, Puducherry
2.	Tamil Nadu	Siddha Central Research Institute, Chennai
		Siddha Medicinal Plants Garden, Mettur Dam

b. Institutes-wise details of Intra Mural Research (IMR) on medicinal plants (On-going Projects)-

S.No.	State UT-wise	Institute
1.	Delhi	Siddha Clinical Research Unit, New Delhi
2.	Karnataka	Siddha Clinical Research Unit, Bengaluru, Karnataka
3.	Kerala	Siddha Regional Research Institute, Thiruvananthapuram
4.	Puducherry	Siddha Regional Research Institute, Puducherry
5.	Tamil Nadu	Siddha Central Research Institute, Chennai
		Siddha Medicinal Plants Garden, Mettur Dam
		Central Council for Research in Siddha, Chennai

## **6. Indian Council of Agricultural Research (ICAR)**

Under ICAR there is one Institute named as ICAR-Directorate of Medicinal and Aromatic Plant Research (ICAR-DMAPR) located at Boriavi, Anand, Gujarat. Besides, following ICAR-All India Coordinated Research Project on MAP are also working at different centres in India.

S.No.	State	Name of Institution
1.	Andhra Pradesh	Dr. Y. S. Rajasekhara Reddy Horticulture University (Dr. YSRHU)
2.	Arunachal Pradesh	Central Agricultural University (CAU)
3.	Assam	Assam Agricultural University (AAU)
4.	Bihar	Dr. Rajendra Prasad Central Agricultural University (DRPCAUI)
5.	Gujarat	Anand Agricultural University (AAU)
6.	Haryana	C. C. S. Haryana Agricultural University (CCSHAU)
7.	Himachal Pradesh	Dr. Y. S. Parmar University of Horticulture and Forestry (YSPUHF)
8.	Jharkhand	Birsa Agricultural University (BAU)
9.	Karnataka	ICAR - Indian Institute of Horticultural Research (IIHR)
10.	Kerala	Kerala Agricultural University (KAU)
11.	Madhya Pradesh	Indira Gandhi Krishi Vishwavidyalaya (IGKV)
12.	Madhya Pradesh	Jawaharlal Nehru Krishi Vishwavidyalaya (JNKVV)
13.	Madhya Pradesh	Rajmata Vijayaraje Scindia Krishi Vishwavidyalaya (RVSKVV)

14.	Maharashtra	Dr. PanjabraoDeshmukhKrishiVidyapeeth (PDKV)
15.	Mahashtra	Mahatma PhuleKrishiVidyapeeth (MPKV)
16.	Odhisa	Orissa University of Agriculture and Technology (OUAT)
17.	Rajasthan	MaharanaPratap University of Agriculture and Technology (MPUAT)
18.	Tamil Nadu	Tamil Nadu Agricultural University (TNAU)
19.	Uttar Praesh	N. D. University of Agriculture and Technology (NDUAT)
20.	Uttarakhand	Uttarakhand University of Horticulture & Forestry (UUHF)
21.	West Bengal	Bidhan Chandra KrishiViswavidyalaya (BCKV)
22.	West Bengal	Bihar Agricultural University (BAU)
23.	West Bengal	Uttar BangaKrishiViswavidylaya (UBKV)

### **Voluntary Centres under AICRP on MAP**

<b>S.No.</b>	<b>State</b>	<b>Name of Institution</b>
1.	Rajasthan	Agriculture University (AU)
2.	Uttar Pradesh	Banda University of Agriculture and Technology (BUAT)
3.	Jammu & Kashmir	Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST)

### **7. Department of Biotechnology (DBT)**

The institutions involved in such research work are as follows:

<b>S.No.</b>	<b>State</b>	<b>Name of the Institute</b>
1.	Arunachal Pradesh	College of Horticulture & Forestry, Central Agricultural University, Arunachal Pradesh
2.		CSIR-North East Institute of Science and Technology, Itanagar, Arunachal Pradesh
3.		Rajiv Gandhi University, Itanagar, Arunachal Pradesh
4.		North Eastern Regional Institute of Science and Technology, Itanagar
5.		National Institute of Technology, Arunachal Pradesh
6.	Assam	Amrita Institute of Medical Sciences and Research Centre, Kochi
7.		Tezpur University, Napaam, Assam
8.		The Energy and Resources Institute, Guwahati
9.		Regional Medical Research Centre, N.E. Region, Dibrugarh, Assam
10.		Assam Agricultural University, Assam



11.		National Institute of Pharmaceutical Education and research (NIPER), Guwahati
12.		Institute of Horticulture Technology, Mandira, Kamrup, Assam
13.		Institute of Advanced Study in Science and Technology (IASST), Guwahati, Assam
14.		Assam University, Silchar, Assam
15.		Cotton College, Guwahati, Assam
16.		Central MugaEri Research & Training Institute, Jorhat
17.		Dibrugarh University, Dibrugarh
18.		Darrand College, Tezpur, Assam
19.		Gauhati University, Guwahati
20.		Goalpara College, Goalpara, Assam
21.		Government Ayurvedic College & Hospital, Guwahati
22.		Central Institute of Technology, Kokrajhar
23.	Bihar	BalajiUtthanSansthan, Patna
24.		ICMR-Rajendra Memorial Institute of Medical Sciences (RMIMS), Patna
25.	Delhi	Hamdard University, New Delhi
26.		International Centre for Genetic Engineering & Biotechnology, New Delhi
27.	Gujarat	M. S. University of Baroda, Vadodara
28.	Haryana	National Dairy Research Institute (NDRI), Karnal
29.	Himachal Pradesh	Himalayan Forest Research Institute, Shimla
30.	Jammu & Kashmir	CSIR-Indian Institute of Integrative Medicine (IIIM), Jammu
31.	Karnataka	JSS College of Pharmacy, JSS University, Mysore
32.		Manipal Life Science Centre, Manipal University, Manipal
33.		KLE Academy of Higher Education and Research (KLE University), Belagavi, Karnataka
34.	Kerala	Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI), Palode
35.		Rajiv Gandhi Centre for Biotechnology (RGCB), Thiruvananthapuram
36.	Maharashtra	Kelkars Education Trust's Scientific Research Centre, Mumbai
37.	Manipur	ICAR RC NEH, Manipur Centre
38.		Manipur University, Imphal
39.		Institute of Bio-resource and Sustainable Development (IBSD), Imphal, Manipur
40.	Meghalaya	ICAR, Shillong
41.		North Eastern Hill University, Shillong

42.	Mizoram	Central Agricultural University Selesih, Mizoram
43.		Mizoram University, Aizwal
44.		ICAR Research Complex for North East Hill Region, Mizoram Centre
45.	Nagaland	Kohima Science College, Jotsoma, Nagaland
46.	Odisha	Centre of Biotechnology, Siksha-O-Anusandhan University, Bhubaneswar
47.		Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar
48.	Sikkim	G.B. Pant Institute of Himalayan Environment & Development, Gangtok
49.		Sikkim Government College Sikkim
50.		ICAR RC NEHR Sikkim Centre
51.	Tripura	National Institute of Technology, Agartala
52.		Tripura University, Agartala
53.	Uttar Pradesh	Bennett University, Greater Noida
54.		GLA University, Mathura
55.		ICAR-Central Institute for Research on Goat, Mathura
56.		CSIR-Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow
57.	West Bengal	Jadavpur University, Kolkata
58.		Ramakrishna Mission Vivekananda University, Kolkata

## 8. Department of Science & Technology (DST)

Details of Institution Working on Various Aspects of Medicinal Plants

S.No.	State	Name of university
1.	Manipur	Manipur University, Dept. Of Biotechnology, Manipur, Canchipur, Imphal – 795003
2.	Himachal Pradesh	Jaypee University of Information Technology, Wagnaghat, Solan, HP-173 234
3.	Uttar Pradesh	CSIR- National Botanical Research Institute, Lucknow – 226001
4.	Uttar Pradesh	CSIR- National Botanical Research Institute, Lucknow – 226001
5.	Uttar Pradesh	CSIR- Central Institute of medical and aromatic plants, PO CIMAP, Near Kukrail Picnic Spot, Lucknow - 226015