



Manav Rachna International Institute of Research and Studies
(Deemed to be University under section 3 of the UGC Act, 1956)

ZERO HUNGER

2 ZERO HUNGER



End hunger, achieve food security and improved nutrition & promote sustainable agriculture

PROGRESS REPORT 2022-23



Contents:

1. PREAMBLE

2. CAMPUS FOOD WASTE TRACKING

3. STUDENT FOOD INSECURITIES AND HUNGER

**4. HEALTHY AFFORDABLE AND SUSTAINABLE FOOD CHOICES
IN CAMPUS**

5. Events for local Farmers and Food Producers

**6. PROMINENT RESEARCH PUBLICATIONS ADDRESSING SDG
2**

**7. REGULAR SKILL SET ENHANCEMENT AT MRIIRS-
CERTIFICATIONS EARNED BY STUDENTS AND FACULTY
MEMBERS**

1. PREAMBLE

Food is Important for all the living being but increased population and our irresponsible behavior towards the environment has changed the cycle. Our earth has given us a tremendous resource, but million of people are starving due to unequal access and ineffective management. With the use of Cutting-Edge technologies and equitable distribution methods, we can support the global population and ensure that no one will ever again be hungry.

2. CAMPUS FOOD WASTE TRACKING

MRIIRS do follow a food wastage tracking program based on Sustainable Food policy. Food nutrition and wastage audit committee has been constituted at the Institute level as per the 'Sustainable Food Policy of MRIIRS'. The roles and responsibilities of this committee includes conduct of awareness sessions to minimize the food wastage, collate and analyze the food wastage records, draft the strategies to minimize the food waste, sustainable disposition of generated food waste, monitor waste food management, to ensure the availability of sustainable, healthy and affordable food choices on campus, conduct awareness on sustainable farming practices, training on sustainable technical agricultural aspects, etc. This food waste tracking process provides better identification of areas for improvement and makes team members more aware about the food wastage. Food waste at all the outlets of the campus including Hostel Mess is recorded on the daily basis through MIS and kept in record for making future strategies. The analysis of food waste is evaluated and based on the statistics further measures including rigorous sensitization towards NO FOOD WASTE etc. are planned.

A. PROCESS OF FOOD WASTE TRACKING AT MRIIRS

MRIIRS do follow a food wastage tracking program based on Sustainable Food policy. This food waste tracking process provides a better identification of areas for improvement and makes team members more aware about the food wastage.

Food nutrition and wastage audit committee has been constituted at the Institute level as per the 'Sustainable Food Policy of MRIIRS'.

Food waste at all the outlet of the campus is recorded on the daily basis through MIS (<https://forms.gle/ZCF165Rda1wPEQcu6>) as per the Annexure B of Sustainable Food Policy and kept in record for making future strategies.

The **access to MIS has been provided at the end of member secretary** (presently Dr. Mahak Sharma- Associate Professor, School of Allied and Health Science, SAHS) of **Food nutrition and wastage audit committee of MRIIRS.**

All the food waste records as obtained on daily basis through MIS are analyzed during the monthly meeting of **Food nutrition and wastage audit committee of MRIIRS**. This analysis majorly includes:

- Analyzing the amount of dry and wet food waste
- Amount of food waste during transportation
- Management of food waste at the respective outlets which may include
- amount of food waste sent for Animal Feed, amount of food waste sent
- for Organic Compost, amount of food waste sent to shelter homes through
- Dr. O. P. Bhalla Foundation, amount of food waste sent to Food Unit of
- ManavRachna Innovation and Incubation Centre.

The recommendation of this committee as provided on the food wastage reports of are shared with the respective stakeholders for further interventions.

The analysis of food waste is thus evaluated as per the above process and based on the statistics further measures including rigorous sensitization towards NO FOOD WASTE etc. are planned.

Further, following regular measures have been incorporated to ensure the minimized food wastage:

We at Manav Rachna Education Institutions aim to minimizing the food wastage in order to overcome the global issue.

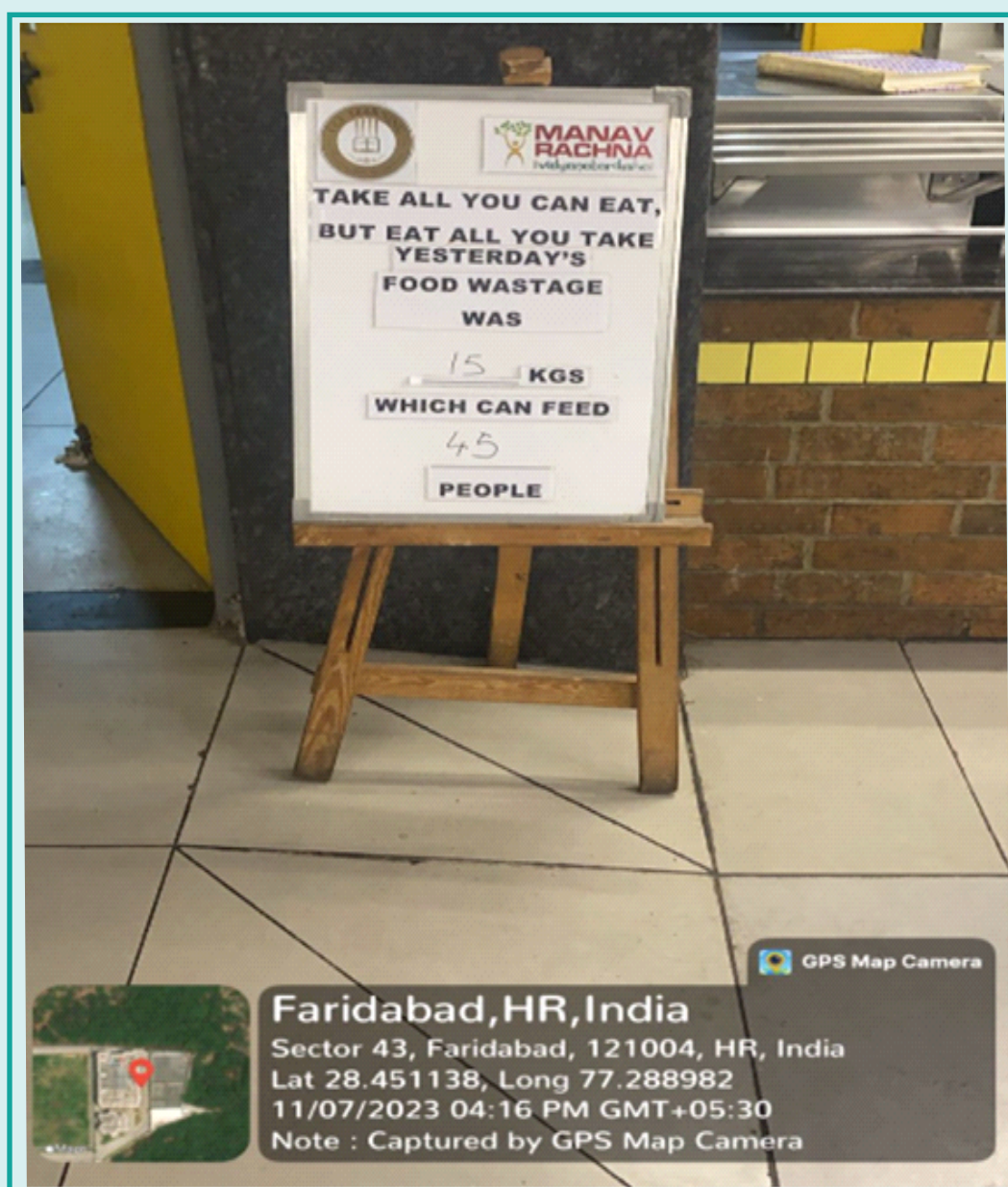
- Students and all peers are always sensitized about the food wastage. Multiple processes have been designed and being followed to ensure minimization of food wastage.
- Cyclic menu helps in planning the material supply and inventory.
- Raw food material and ingredients are always being procured from definite vendors which have already being identified on the basis of their quality service.
- Portion control dishes are being used in order to control the food portion to minimize the wastage.
- Regular audits are also done to understand the wastage of specific food type if any.
- We also use to recycle the amount of food waste to create compost and to feed stray animals as the motto of zero hunger exist to help out every species in any way possible.
- Sensor taps have been installed to control water wastage as well. Dish washers have been installed for second screening of food wastage.
- Deep and huge freezers have also been installed to store surplus raw and processed food to avoid food wastage.
- Regular audits and inspections from internal committee also ensure the follow up of the sustainable food policies in the most efficient manner.

I. REGULAR FOOD INVENTORY AUDITS

For instance, based on the statistics, it could be concluded that an excessive amount of expired produce is being disposed of. In order to ensure that products are used before they expire, the food nutrition and wastage audit committee decides to alter how frequently the team analyses inventory. This makes a significant contribution to achieving future goals and expectations about food waste.

II. DAILY STUDENT WASTAGE AWARENESS

Daily student wastage awareness notice boards are updated to sensitize the students on Food Wastage, the geotagged photograph of notice boards for daily student wastage awareness is as provided below:



DAILY STUDENT WASTAGE AWARENESS
(Notice Board to make student aware about wastage)

III. 'PLEDGE ON ZERO FOOD WASTAGE'

To spread awareness amongst the students and faculty members about Zero Hunger (Sustainable Development Goal SDG-02) and promote a sustainable habit of not wasting food, a pledge taking ceremony on 'Zero Food Wastage' was organized by the School of Culinary and Hotel Management, ManavRachna International Institute of Research and Studies (MRIIRS) on August 23 and 24, 2023. The same was scheduled in two parts one for the hostlers of Girls Hostel of MRIIS to sensitize them about the need and importance of conserving food and to motivate them for minimizing food wastage during their meal timings in Girls' Hostel Mess area. A board mentioning the total food waste per day has also being kept in the Mess area is to make the hostlers understand that the total amount of food wasted by them the previous day was able to feed how many people. The second part was scheduled for the students of the School of Culinary and Hotel Management. Students have made posters and written slogans for addressing the issue of world hunger.

Students have taken pledge on minimizing the food wastage with the message of 'Food for Everyone All Year Long'. The students have visited many of the food joints located inside the campus and also sensitize their friends and fellow students about the message.

Total of 231 girls from the Girls Hostel and 385 students from the different departments of MRIIRS have participated.

During the session, following pledge was taken by the students:

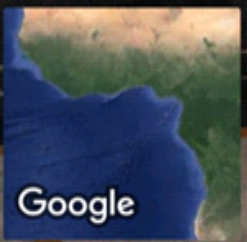
"I wholeheartedly pledge to minimize the food wastage. I will diligently strive to reduce the food waste around me and contribute towards the sustainable future."

The session fulfilled its objectives by successfully raising awareness about Zero hunger.





GPS Map Camera



Faridabad, Haryana, India
LIBRARY, MANAV RACHNA UNIVERSITY, Manav Rachna Campus Rd, Gadakhor
Basti Village, Rocky Area, Faridabad, Haryana 121003, India
Lat 28.449987°
Long 77.287017°
24/08/23 11:33 AM GMT +05:30



IV. AWARENES THROUGH BANNER/RALLIES/ AWARENESSSESSIONS ACROSS THE CAMPUS:



Food waste management is sustainable and advantageous for both the economy and the environment. By identifying strategies to reduce waste, we are able to reduce the energy and labour expenses associated with tossing out good food and products. The amount of food that ends up in local landfills is decreased while also safeguarding the environment through the reduction of food waste through production methods and overproduction measures. By opting and following these measures we were able to not only minimize the food waste but also to identify the best sustainable ways possible to manage the wet food waste.

B. SAMPLE MONTHLY RECORDS AS OBTAINED THROUGH MIS AT MRIIRS

Food waste at all the outlets of the campus including Hostel Mess is recorded on the daily basis through MIS and kept in record for making future strategies. Sample monthly records of Food wastage in Kgs are provided for the following food outlets:

- Annexure 1: Girls Mess being run by Culinary Centre, MRIIRS
- Annexure II: On-Campus Food Outlet of MRIIRS- Sample added for Chai Garam

Management of food waste at the respective outlets which includes whether

- food waste sent for **Animal Feed,**
- food waste sent for **Organic Compost,**
- food waste sent to **shelter homes through Dr. O. P. Bhalla Foundation,**

food waste sent to Food Unit of ManavRachna Innovation and Incubation Centre is also consolidated in the Remarks section of the report.

Annexure I: RECORDS OF GIRLS MESS (EVERY MONTH) WITH ACTION TAKEN

Manav Rachna International Institute of Research and Studies					
SCHOOL OF CULINARY AND HOTEL MANAGEMENT					
FOOD WASTAGE RECORD					
DATE	PAX	Dry wastage/kg	Wet wastage/kg	ACTION TAKEN	REMARKS
01-Aug	49	3	3.5	Educated Students through Boards	50% used for Animal feeds & 50% used for compost
02-Aug	51	3.5	4	Educated Students through Boards	
03-Aug	45	3	3.5	Educated Students through Boards	
04-Aug	45	3	3	Educated Students through Boards	
05-Aug	45	3	3	Educated Students through Boards	
06-Aug	45	3	4	Educated Students through Boards	
07-Aug	45	3	4	Educated Students through Boards	
08-Aug	45	3.5	5	Educated Students through Boards	
09-Aug	45	3	4	Educated Students through Boards	
10-Aug	45	3	4	Educated Students through Boards	
11-Aug	45	3	4	Educated Students through Boards	
12-Aug	38	2.5	3	Educated Students through Boards	
13-Aug	38	2.5	3	Educated Students through Boards	
14-Aug	38	2.5	3.5	Educated Students through Boards	
15-Aug	38	2.5	3.5	Educated Students through Boards	
16-Aug	38	2.5	3.5	Educated Students through Boards	
17-Aug	38	2.5	3.5	Educated Students through Boards	
18-Aug	38	2.5	4	Educated Students through Boards	
19-Aug	38	3	3	Educated Students through Boards	
20-Aug	38	3	4	Educated Students through Boards	
21-Aug	38	3	4	Educated Students through Boards	
22-Aug	38	2.5	3	Educated Students through Boards	
23-Aug	58	3.5	3	Educated Students through Boards	
24-Aug	41	3	3	Educated Students through Boards	
25-Aug	41	3	4.5	Informed the Warden	
26-Aug	41	3	3	Educated Students through Boards	
27-Aug	41	3	3	Educated Students through Boards	
28-Aug	41	3	3	Educated Students through Boards	
29-Aug	27	2	3.5	Educated Students through Boards	
30-Aug	27	2	3	Educated Students through Boards	
31-Aug	27	2	3	Educated Students through Boards	
Total		87.5	109		

Annexure II: ANALYSIS OF FOOD WASTAGE AT FOOD OUTLET CHAI GARAM (EVER MONTH)

Manav Rachna International Institute of Research and Studies					
Chai Garam					
FOOD WASTAGE RECORD					
DATE	PAX	Dry wastage/kg	Wet wastage/kg	ACTION TAKEN	REMARKS
1-May	56	1.5	1	Animal feed, composting the waste, Portion Control and sensitizing customer	Food wastage was used for Animal feed and composting
2-May	60	3	0	Animal feed, composting the waste, Portion Control and sensitizing customer	
3-May	95	2	1	Animal feed, composting the waste, Portion Control and sensitizing customer	
4-May	89	3.5	1	Animal feed, composting the waste, Portion Control and sensitizing customer	
5-May	50	2.5	0	Animal feed, composting the waste, Portion Control and sensitizing customer	
6-May	54	2.5	0	Animal feed, composting the waste, Portion Control and sensitizing customer	
7-May	Sunday	0	0		
8-May	115	6	2	Animal feed, composting the waste, Portion Control and sensitizing customer	
9-May	97	4	2	Animal feed, composting the waste, Portion Control and sensitizing customer	
10-May	78	3.5	1	Animal feed, composting the waste, Portion Control and sensitizing customer	
11-May	86	3.5	1.5	Animal feed, composting the waste, Portion Control and sensitizing customer	
12-May	60	3	2	Animal feed, composting the waste, Portion Control and sensitizing customer	
13-May	Closed				
14-May	Sunday	0	0		
15-May	55	2.5	1	Animal feed, composting the waste, Portion Control and sensitizing customer	
16-May	42	2	0	Animal feed, composting the waste, Portion Control and sensitizing customer	
17-May	58	3	2.5	Animal feed, composting the waste, Portion Control and sensitizing customer	
18-May	46	2	0	Animal feed, composting the waste, Portion Control and sensitizing customer	
19-May	56	1.5	0	Animal feed, composting the waste, Portion Control and sensitizing customer	
20-May	78	3	2.5	Animal feed, composting the waste, Portion Control and sensitizing customer	
21-May	Sunday	0	0		
22-May	54	2.5	1	Animal feed, composting the waste, Portion Control and sensitizing customer	
23-May	95	4	2.5	Animal feed, composting the waste, Portion Control and sensitizing customer	
24-May	94	4	1	Animal feed, composting the waste, Portion Control and sensitizing customer	
25-May	56	2	0	Animal feed, composting the waste, Portion Control and sensitizing customer	
26-May	79	3	1.5	Animal feed, composting the waste, Portion Control and sensitizing customer	
27-May	Closed				
28-May	Sunday	0	0		
29-May	64	0.5	3	Animal feed, composting the waste, Portion Control and sensitizing customer	
30-May	59	1	2	Animal feed, composting the waste, Portion Control and sensitizing customer	
31-May	67	1.5	1	Animal feed, composting the waste, Portion Control and sensitizing customer	
Total	1743	67.5	29.5		

C. MANAGEMENT OF FOOD WASTE

**Manav Rachna International Institute of Research and Studies,
(Deemed to be University)**

Geotagged Photographs of Biocomposter



Biocomposter -Geotag Link to Google Maps

On-Campus Bio-composter installed to manage Food Waste



Latitude: 28.450194048796135
Longitude: 77.28759945499488

Biocomposter

Latitude: 28.450194048796135, Longitude: 77.28759945499488
28°27'00.7"N 77°17'15.4"E



Latitude: 28.45010438083879,
Longitude: 77.28757804141851

Biocomposter Alternate View

Latitude: 28.45010438083879, Longitude: 77.28757804141851
28°27'00.4"N 77°17'15.3"E



GPS Map Camera



Faridabad, Haryana, India
F72Q+CFX, Gadakhor Basti Village, Sector 43,
Faridabad, Haryana 121003, India
Lat 28.451182°
Long 77.288871°
07/11/22 04:51 PM GMT +05:30

TOOLS FOR PORTION CONTROL- Different small Ladles are used to control excess serving



**TOOLS FOR PORTION CONTROL- Different small Ladles
are used to control excess serving**



3. STUDENT FOOD INSECURITIES AND HUNGER

MRIIRS population has access to the food outlets for multiple Food Choices on campus. Manav Rachna International Institute of Research and Studies further always help the community in achieving the good health through Nutrition health camps at different areas of Faridabad and its outskirts. Institute runs many courses in field of nutrition and health such as Fundamental of food and nutrition, Family meal management, Institutional Service management, Community Nutrition, Food science and technology, Food hygiene and sanitation to encourage the students to take a step forward and work towards this novel work to save the planet. Apart from this many start-ups are also been launched like **1) Helestein Food Lab:** non-preservative beverages and food items. **2) Naturoplast:** Biodegradable packaging film using banana peel as a replacement of plastic **3) Nutrifresh:** mouth freshener developed by basil seeds etc.

A. AWARENESS PROGRAMMES/ NUTRITION HEALTH CAMPUS/ COURSE ON FOOD & NUTRITIONS / START-UPS INCUBATED:

Manav Rachna International Institute of Research and Studies further always help the community in achieving the good health through **Nutrition health camps** at different - different area of Faridabad and its outskirts. Institute runs **many courses in field of nutrition and health** such as Fundamental of food and nutrition, Family meal management, Institutional Service management, Community Nutrition, Food science and technology, Food hygiene and sanitation to encourage the students to take a step forward and work towards this novel work to save the planet.

These courses run with following Objectives:

- To create students who are having the knowledge of nutrition and will be able to create the diets according to person's need.
- To create awareness related to balance diet and its importance by using ICT tools.
- To be able to calculate the nutritive value of any food and will be able to prepare nutritious dishes.
- New innovative product can also be developed to overcome the malnutrition of the community

Apart from this many start-ups are also been launched like **1) Helestein Food Lab:** non-preservative beverages and food items, use waste like cocum rind, Mango peel, to develop various nutritious food products. **2) Naturoplast:** Biodegradable packaging film using banana peel as a replacement of plastic **3) Nutrifresh:** mouth freshener developed by basil seeds.

Recent Start-ups are **1) Eat Me:** focussed on waste management of water melon rind in to edible cutlery. **2) Poshan twigs:** Nutritious solution of the breakfast using millets (underutilized crop)



Nanowrap from Banana Peel waste

4. HEALTHY AFFORDABLE AND SUSTAINABLE FOOD CHOICES IN CAMPUS

Manav Rachna International Institute of research and Studies has created a Sustainable Food Policy and same has been adopted successfully since 2018. The strategy includes monitoring food waste, measures for reducing food waste, the use of a balanced meal diet, and the provision of health and affordable food choices in the campus. MRIIRS ensures the availability of Healthy and Affordable Food Choices in the Campus through the laid down 'Sustainable Food Policy of MRIIRS':

- To maintain proper nutrition, balanced cyclic meal menu has been implemented in the hostel mess. A menu with both vegetarian and non-vegetarian options has been adopted. Salt, sugar, fat, and meat product reduction has been stressed. Red meat, trans fat are prohibited.
- ManavRachna is huge campus having several food Courts and Outlets for different affordable and healthy food choices available for students' academicians and visitors.
- It is ensured that procurement of raw ingredients and different food commodities are from the trusted sources/vendors.

Further, time to time **healthy cafeteria and recipe competitions** are organized in the campus. For providing the Sustainable food choices on campus, aligned department always create awareness in the form of organizing nutritious café which include low-cost meals, nutritious modern recipes. Every time the theme of the café is different to create awareness on different angle of the food.

4.1 COMPETITION'S

I. Cafeteria : Millet Mania

<https://www.facebook.com/watch/?v=1577601912734549>

Cafeteria is a very important part of any organisation and running a cafeteria is a tricky process as it involves careful attention to proper calculation of recipes, proper storage of ingredients, catering to all the clients, earning profit etc. As a part of the curriculum and to make students learn the hands-on experience on entrepreneurial skills, the students of MSc Nutrition and Dietetics II semester, organised a one day cafeteria. Department of Nutrition and Dietetics, Faculty of Allied Health Sciences, ManavRachna International Institute of Research and Studies organised a one day Cafeteria on 17th May, 2023 at Q - Block from 10 am onwards.

The theme for the Cafeteria was **"Millet Mania", projecting Goodness of Millets.** Millets are highly nutritious and are used for human consumption in most of the developing countries, but their use has been primarily restricted to animal feed in developed countries. There are a variety of Millets like Sorghum, Pearl millet, Finger millet, Foxtail millet, Common millet, Little millet, Barnyard millet and Kodo millet. To promote the importance of millets, students of MSc II semester (Nutrition and Dietetics) have prepared a few recipes with incorporation of Millets.

The occasion was graced by honourable Dr N C Wadhwa, Director General, MREI, Dr Sarita Sachdeva, Dean Research, Dr Brgd RK Anand, Director General; MRIIRS, Dr Gurjeet Kaur Chawla, Dean DSW inaugurated the cafeteria at 10:30 AM. On this occasion Prof. G.L. Khanna (PVC, MRIIRS), Dr MR Rizvi, Dean, FAHS), Dr. Divya Sanghi (HOD, Nutrition and Dietetics) were also present.

All the dignitaries asked the importance of Millets from the students and appreciated the efforts of the students for nice preparation/The Menu included

1. Bindass Bhelpuri
2. Mammamia Pasta
3. Tangy Tikki
4. Mysterious Meal
5. Twerking Truffle
6. Tripsy Slush
7. Bal Banta

The student organizers made everyone experience a delightful journey of flavours where all students from various departments and faculties of ManavRachna enjoyed and relished the alluring experience of exotic food served. The theme of the café is different to create awareness on different angle of the food.



Inauguration of Cafeteria: Millet Mania



Students Preparing food



Running Cafeteria

II. Dietetics Day 2023 - Workshop consist of Healthy Recipe Competition and demonstration of recipes created by Nestle

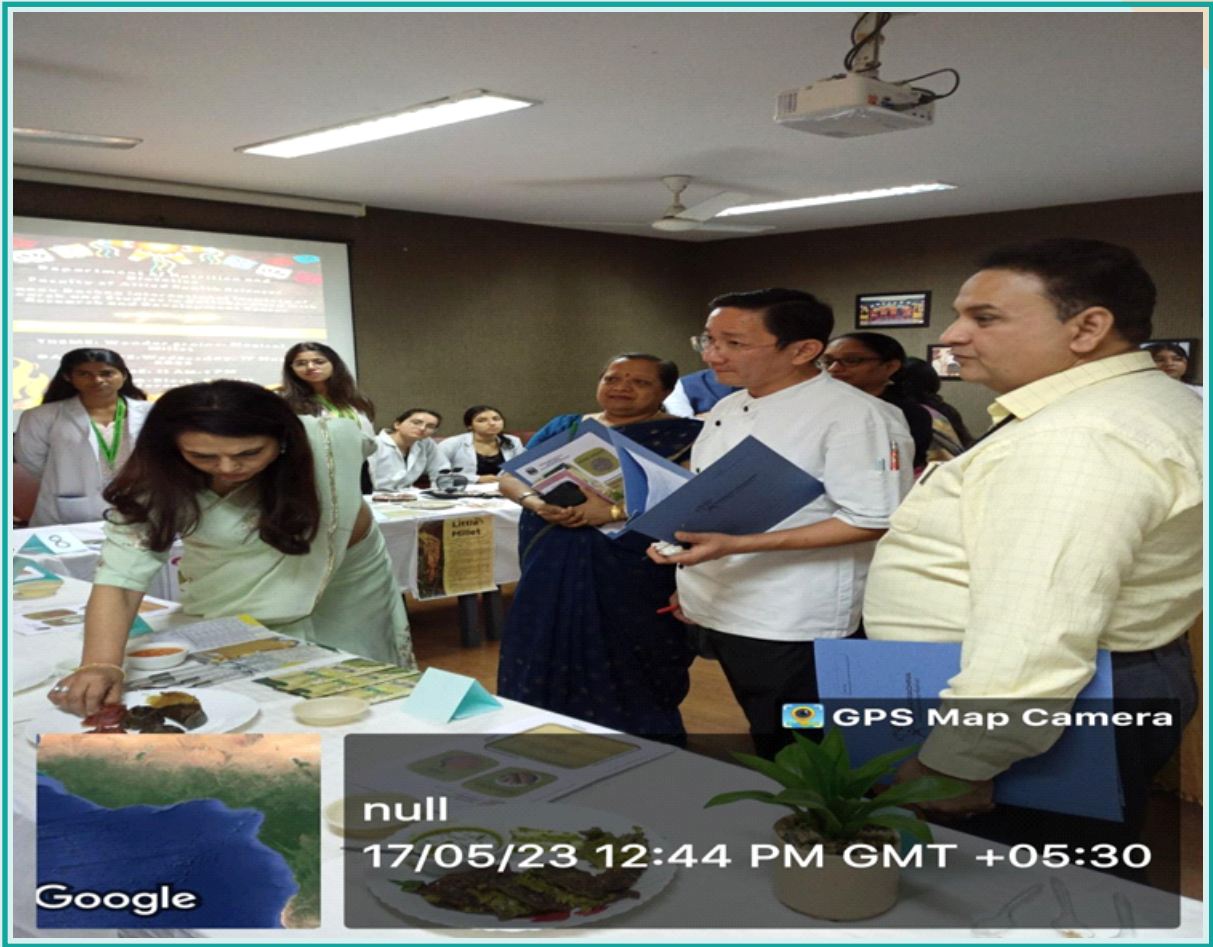
Department of Nutrition and Dietetics, Faculty of Allied Health Sciences celebrated Dietetics day 2023 in collaboration with Nestle Pvt. Ltd. On Dietetics day the department of Nutrition organized a recipes competition Entitled MeriMaggic Savory Challenge. The students have to prepare healthy recipes by using Maggic masala of Nestle. About 20 recipes were formulated and presented in front of Judges. Mr. Lee, Chef from culinary sciences, MRIIRS and Dr. Pratibha Singh, Professor, Department of Nutrition and Dietetics, MRIIRS judged the participants on taste, texture, concept, nutritional value and acceptability of the product. The competition was exciting for students and faculty members. Followed by recipe competition, demonstration of healthy recipes was done by the Ms. Vini, experts at Nestle. He demonstrated many recipes like carrot cake, healthy chart and many more by using Nestle products. The demonstration was innovative and very interactive. They also provide oats cornflakes to be distributed among students of Department of Nutrition and Dietetics and Physiotherapy.



Chef Lee evaluating the food

III. Millet Recipe Competition

Department of Nutrition and Dietetics, Faculty of Allied Health Sciences in collaboration with Research and Development center, MRIIRS celebrated International Millet Year 2023. On 17th May 2023, the department of Nutrition and Dietetics organized a Millet Recipes competition with the theme of "Wonder Grains: Magical Millets". The students have to prepare healthy recipes by using Millet and created posters and pamphlets to describe the nutritional properties of recipe and their innovation techniques. About 17 recipes were formulated and presented in front of Judges. Dr. Veena Singh, Former Director General, Health Services, Haryana; Mr. Lee, Chef from culinary sciences, MRIIRS and Dr. M. Rizvi, Dean and Professor, Faculty of Allied Health Sciences, MRIIRS judged the participants on taste, texture, concept, nutritional value and acceptability of the product. The competition was exciting for students and faculty members. Dr. Veena Singh and Chef Lee gave their expertise opinion and insight to improve their dishes or for developing a startup company. The winner was Ms. Muskan Gupta, student of MSc. Nutrition and Dietetics, Final Year. She created Momos by using millets in different colors and textures.



Dr. Veen Singh, DG, Health Services evaluating the food

4.2 CYCLIC MENUE AS CREATED FOR HOSTEL MESS AND NUTRITION VALUE CALCULATION

Cyclic menu for hostel mess

A cyclic menu of hostel mess is planned in balanced and nutritional manner. Proper macronutrient calculation is done for each recipe to provide balanced meal. The cyclic menu is created for hostel mess and proper nutrition calculation was done to see the nutritional value of all the recipes and in totality for balance meal. Also, nutrition education is provided to consumers and personal waste management strategies.

DATE	1-Jan-20	2-Jan-20	3-Jan-20	4-Jan-20	5-Jan-20		
13-Jan-20	14-Jan-20	15-Jan-20	16-Jan-20	17-Jan-20	18-Jan-20		
27-Jan-20	28-Jan-20	29-Jan-20	30-Jan-20	31-Jan-20			
DAYS	MON	TUE	WED	THUR	FRI	SAT	SUN
EGG	MASALA OMELETTE	VEG. KATHI ROLL	BOILED EGG	ALDO MOOLI PARANTHA	EGG BHURJI	IDLI/VADA	POORI
HOT ITEM	VEG. SANDWICH	VEG. POHA	MIX. VEG. PARANTHA	VEG. VERRICOLI	METHI PARANTHA	SAMBHAR	BHAJI
MILK		GREEN CHUTNEY	PICKLE	PICKLE	BHAJI		SOOJI UPMA
HOT BEVERAGE	TEA	TEA	HOT MILK				HOT MILK
LUNCH							
RAITA/SOUP	MIX. VEG. RAITA	MUSHROOM SOUP	KHEER RAITA	HOT & SOUR SOUP	MIX. VEG. RAITA	TOMATO SOUP	BOONDI RAITA
SALAD	GREEN SALAD	GREEN SALAD	GREEN SALAD	GREEN SALAD	GREEN SALAD	GREEN SALAD	Green Salad
DAL	BLACK MASOOR DAL	MOONG MASOOR DAL	RED MALKA	KADHI PANDRA	RAJMAH MASALA	MIX. DAL	DAL MASHANI
VEG-1	SOYA KEEMA MATAR	ALOO GOBHI	LAUKI KOFTA CURRY	SAMBHAR	DUM ALDO KASHMIRI	VEG. MANCHURIAN	MIRCH BANGAN KA SALAN
VEG-2	ALOO BEANS	PASTA RED SAUCE	ALDO METHI	VEG. POKRIYAL	BANGAN BHARTA	ALDO GAJAR MATAR	AOHARI ALDO
RICE	STEAM RICE	STEAM RICE	STEAM RICE	STEAM RICE	STEAM RICE	STEAM RICE	VEG. BIRYANI
ROTI	TAINA ROTI	TAINA ROTI	TAINA ROTI	TAINA ROTI	TAINA ROTI	TAINA ROTI	AFIYANI PARANTHA
SNACKS							
SNACKS	SAMOSA	VEG. SANDWICH	HABA BHAR KEBAB	VADA PLAV	LITTAPUM	VEG. PUFT	CHOWMIEN
ACCOMPANIMENT	GREEN CHUTNEY	KETCHUP	KETCHUP	BOMBAY CHUTNEY	TOMATO CHUTNEY	KETCHUP	KETCHUP
HOT BEVERAGE	TEA	TEA	TEA	TEA	TEA	TEA	TEA
DINNER							
SALAD	GREEN SALAD	GREEN SALAD	GREEN SALAD	GREEN SALAD	GREEN SALAD	GREEN SALAD	GREEN SALAD
DAL	MIX. DAL	ARWAR DAL TADKA	DAL PANCHMEL	DAL FRY	CHANA DAL TADKA	DABHA DAL	LOBHYA DAL
VEG	SOYA CHAAP MASALA	CORN PALAK	MATAR PANEER	TAINA KADHAI VEG.	SARSON KA SAAG	ALDO GOBHI	KADHAI PANEER
NON VEG/ PANEER	N/A	N/A	BUTTER CHICKEN	N/A	N/A	N/A	CHICKEN CURRY
RICE	STEAM RICE	STEAM RICE	STEAM RICE	STEAM RICE	STEAM RICE	STEAM RICE	STEAM RICE
ROTI	TAINA ROTI	TAINA ROTI	TAINA ROTI	TAINA ROTI	TAINA ROTI	TAINA ROTI	TAINA ROTI
DESSERT	COCONUT LADDOO	HOT RICE KHEER		GULAB JAMUN	GAJAR HALWA	PAYASUM	
NIGHT MILK	HOT MILK	HOT MILK		HOT MILK		HOT MILK	

Cyclic menu for hostel mess

Hostel Menu Calculation:

In order to provide healthy and nutritious food calorie intake is calculated as per the Recommended Dietary Intake guidelines for daily requirement.

Standard Mess Cyclic Menu

Cycle 1

Day	Breakfast (standard)	Lunch (Standard)	Snacks (Standard)	Dinner (Standard)	Calories (Kcal)	Fat (g)	Protein (g)
SUNDAY	Poori Bhaji	Boondiraita	chowmein	green salad	2469	42	69
	Upma/Poha	Green salad	Tea	lobiya dal			
	Hot Milk	Dal Makhani		kadhaipaneer /chicken curry			
	Tea	Baingansalan /Achari aloo		steamed rice			
		Veg biryani		Tawa roti			
	Ajwainiparatha						
MONDAY	Masala Omlette	Mix Veg Raita	Samosa	Green Salad	2242	46	62
	Veg Sandwich	Green Salad	Tea	Mix Dal			
	Tea	Black Masoor Dal	Chutney	Soya Masala Chap			
		Soya KeemaMatar /Aloo Beans		Roti			
		Roti		Steam Rice			
		Steam Rice		Coconut Laddoo Hot Milk			
TUESDAY	Vegetable poha	Mushroom soup	Vegetable sandwich	Arhar dal	2544	51	78
	Green chutney	Moongmasso rdaal	Tea	Rice			
	Tea	Green salad		Roti			
	Vegetable kathi roll	Aloogobhi Red sauce pasta		Hot kheer			
		Rice Roti		Hot milk			
			Corn palak Green salad				
WEDNESDAY	Boiled egg	Cucumber raita	Hara bharakabab	Green salad	2109	49	86
	Mix veg paratha	Rice	Tea	Dal Panchami			
	Tea	Red malka		Matarpaneer			

THURSDAY	Aloomool iparatha	Green salad	Pavbhaji	Dal fry	2400	46	72
	Tea	Rice	Tea	Rice			
	Veg vermicelli	Kadhipakora		Tawa roti			
		Tawa roti		Green salad			
		Sambhar		Tawakadhai veg			
	Veg poriyal		Gulabjamun				
FRIDAY	Egg bhurji	Mix veg raita	Uttapam	Green salad	2468	53	76
	Methiparatha	Green salad		Chana dal tadka			
	Bhaji	Rajma masala		Sarsonsaag			
	Tea	Aloodum masala		Steam rice			
		Bhainganbharta		Tawa roti			
		Steam rice		Gajarhalwa			
		Tawa roti					
SATURDAY	Idli	Tomato soup	Veg puff	Dhaba dal	2428	56	73
	Wada	Green salad	Tea	Aloogobhi			
	Sambhar	Mix daal		Steam rice			
	Tea	Veg Manchurian		Roti			
		Aloogajarmatar		Paysum			
		Steam rice roti		MatarPaneer			

Cycle 2

MONDAY	Boiled Egg	Kheeraraita	Aloobondo	Dal tadka	2050	41	66
	Aloomool iparatha	Green salad	Tea	Veg kofta			
	Tea milk sugar	Black chana dal		steamed rice			
		Laukilababdar		Tawa roti			
		Alooharapyaz		Soojihalwa			
		Steamed rice		green salad			
TUESDAY	Matarkulcha	Hot and sour soup	Uttpam	Green Salad	2203	48	64
	Vegetable poha	Green Salad	Tea	Dhaba dal			
	Green chutney	Red malka dal	Tomato Chutney	Aloo capsicum			
	Tea	Aloopalak		Steam rice			
		Soya keemamatar		Jalebi			
		Steam Rice					
WEDNESDAY	Omelette	Mix veg. raita	Mix pakoda	Green salad	2216	45	61
	Veg sandwich	Green salad	Tea	Dal lobhiya			
	Tea	Dal panchratan		Paneertikka masala			
		Aloosemfali		Steamed rice			
		Kadhaivegetable		Tawa roti			
	Steamed rice						
	Tawa roti						
THURSDAY	Mix veg. paratha	Sweet corn soup	Mix pakoda	Dal	2374	53	67
	Masala porridge	Cucumber salad	Tea	Salad			
	Tea	Kadhipakoda		Matar mushroom			
		Sambhar		Moong dal halwa			
		Tawa roti		Tawa roti			
		Steam rice		Steam rice			
FRIDAY	Egg bhurji	Mix veg. raita	Alootikki	Green salad	2388	44	71
	Methiparatha	Green salad	Tea	Dal fry			
	Tea	Black masoor dal		Matar mushroom			
		Aloogajarmatar		Steam rice			
		Zimikandsabji		Tawa roti			
	Steam rice						
	Tawa roti						
SATURDAY	Idli	Dahipapdi	Dry Manchurian	Mix dal fry	2058	51	65
	Sambhar	Green salad	Tea	Aloogobhi			
	Tea	Chole		Steam rice			
		Bhature		Tawa roti			
		Steam rice					
	Aloojeera						

4.3 DIET AND NUTRITION CLINIC AT MRIIRS

Apart from this institute is also having the inhouse Nutrition and Diet clinic to create awareness of balance diet and spread nutrition knowledge. The objective of Diet and Nutrition clinic was to provide nutrition support with regard to nutritional assessment, nutritional awareness, providing guidelines to prevent communicable and non-communicable disease and providing treatment of various metabolic disorder. Many patients of different ailments were catered such as hypothyroidism, diabetes, kidney disorder, liver disorder, hyperlipidaemia, hypertension, obesity, weight gain and many more. Health camps are organized at regular intervals to different areas of Delhi, NCR so as to reach out to those people who are unable to visit in OPD. In camps, we provide free consultation and assessments to people who are in need. We explain them about their conditions and guide them dos and don'ts with nutrition perspective.



Diet and Nutrition Clinic at MRIIRS

4.4 LIST OF FOOD OUTLETS IN CAMPUS

A. Availability of outlets and mess

Apart from this institute is also having the inhouse Nutrition and Diet clinic to create awareness of balance diet and spread nutrition knowledge. The objective of Diet and Nutrition clinic was to provide nutrition support with regard to nutritional assessment, nutritional awareness, providing guidelines to prevent communicable and non-communicable disease and providing treatment of various metabolic disorder. Many patients of different ailments were catered such as hypothyroidism, diabetes, kidney disorder, liver disorder, hyperlipidaemia, hypertension, obesity, weight gain and many more. Health camps are organized at regular intervals to different areas of Delhi, NCR so as to reach out to those people who are unable to visit in OPD. In camps, we provide free consultation and assessments to people who are in need. We explain them about their conditions and guide them dos and don'ts with nutrition perspective.

OUTLET/ MESS	LOCATION	Food Options Available
Boys Mess	Boys Hostel opposite Q block	Cyclic Menu
Girl Mess	Culinary Center, MR	Cyclic Menu
Hush Food Court	Near F-block	South India, North Indian, Continental etc
RBB	Opposite T-Block	Bean rice, vegetable sandwiches, pavbhaji, shakes, yogurt, fruitsmoothie.
Subway	Opposite B-Block	Subway sandwiches, pasta, oats cookies, salads, wraps etc
Nescafe	Opposite B-Block	Shakes, coffee, Ragi cookies, Vegetable wheat noodles and pasta

MRIIRS population has access to the following outlets for multiple Food Choices:

- a. Hostel Mess (Boys and Girls)
- b. Food Outlets at MRIIRS which includes

- SUBWAY
- HUSH Food Court
- Chai Garam
- Nescafe
- Red Brick Bistro
- Hotel Management Café etc.

The sample Lease Agreements for the food outlets and Hostel Mess caterer- Caterman are also provided:

- 1. Hush Lease Agreement
- 2. Subway Lease Agreement
- 3. Caterman Lease Agreement



Nescafe in front of B-Block

NESCAFE



Latitude:28.450143880597828,
Longitude:77.2833609568262

Hotel Management run Café in front of T-Block



Latitude: 28.450157331392216,
Longitude: 77.28636473264663

Student Run Café Near E,F Blocks



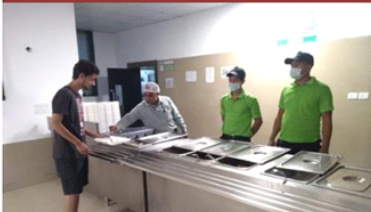
Latitude:, 28.451170209359457
Longitude: 77.28442214277715

Hush Food Court Near F-Blocks



Latitude:, 28.45117636648535
Longitude: 77.28493395098897

HOSTEL KITCHEN AND HYGIENE Food Service



B. INITIATIVES TO CREATE AWARENESS

Many programmes have been launched to spread nutrition and food insecurity information throughout the community and, eventually, globally.

I. Ek Mutthi Daan - Dry Grains Collection

<https://dropbhallaoundation.org/ek-mutthi-daan/>

The ISR arm of MRIIRS - Dr. OP Bhalla Foundation through its ISR activities tried to create a content society. The EkMutthiDaan campaign program has been drawn from the life and times of the Founder Chancellor of MRIIRS, Dr. O P Bhalla. The EkMutthiDaan campaign started on Friday, March 28, 2014. Ever since then, the EkMutthiDaan initiative has been taken up by all constituents of the MRIIRS family, to keep the noble movement going, so that 'no one sleeps hungry'. The foundation stands firmly committed to the cause of mass welfare and instilling the spirit of social and moral responsibility amongst the students.

Till date, we have donated 93498 kgs of Dry Grains to the underprivileged. Last year alone, during the celebrations of our Silver Jubilee year, we had collected 27000 kgs of dry grains, which were donated to not only 15 NGOs but also our in-campus housekeeping staff, gardeners, security guards, construction workers etc. Their blessings after receiving the grains will remain with all of us forever. Now that it's been a year to this donation drive, we again intend to do this Mega Donation Activity on 16th September 2022

List of Organization

S. No	Name of Organisation	Details	Number of Beneficiaries	Donation (kgs)
1	SHEOWS	Old Age Home	80	1500
2	Tau Devi Lal Old Age Home	Old Age Home	70	500
3	Red Cross De-addiction Center	De-addiction Center	8	240
4	DayalpurGurudwara	Langar	2400	1000
5	Hostel for Resued Boys	Orphanage	65	1800
6	Global Orphanage Trust	Orphanage	30	500
7	ParnavKarunaSangha	Orphanage	25	500

8	Earth Savior Foundation	Old Age Home	500	2500
9	Prabhat an awakening	Home for underprivileged special kids	20	500
10	People for Animals	Animal Shelter	25	500
11	Housekeeping team at MR campus	Housekeeping staff	200	3284
12	Housekeeping on rolls at MR campus	Housekeeping staff	10	150
13	Security Team at MR Campus	Security Staff	65	975
14	Gardeners at MR Campus	Gardeners	25	400
15	Maintenance Team at MR campus	Central admin and maintenance	150	2250
16	MR Transport	Drivers	25	400
17	Construction workers at MR campus	Labour	190	2850
			TOTAL	19849





Ek Mutthi Daan:

A Movement of Togetherness

No one Sleeps Hungry - A Movement... An Initiative

The Ek Mutthi Daan campaign program has been drawn from the life and times of Founder Chancellor of MRIU, Dr. O P Bhalla. The Ek Mutthi Daan campaign was started on March 28, 2014, Friday. Chief patron of MRIU, Mrs. Satya Bhalla inaugurated the campaign by donating the first handful of rice towards the 'Ek Mutthi Daan'. Through this campaign, the foundation had urged everyone in the MREI family to donate just a handful of rice. As a humble beginning, 1500 kgs rice collected during March- May 2014 had been donated to an NGO: 'Prayaas'. Ever since then, the Ek Mutthi Daan initiative has been taken up by all constituents of the MREI family, to keep the noble movement going, so that 'no one sleeps hungry'.

The foundation stands firmly committed to the cause of mass welfare and instilling the spirit of social and moral responsibility amongst the students. Through this campaign, all constituents of the MREI family have come together to donate for the underprivileged sections of society. Till date approx. 9730 kg rice, 700 kg wheat flour has been contributed and donated to following NGOs Prayas, Sai Milan, Naz Foundation.

Ek Mutthi Daan - Dry Grains Collection



II. Millet fest (Awareness programme for underutilized crops but having excellent nutritional quality)

https://www.linkedin.com/posts/manav-rachna-educational-institutions_manavrachna-millets-milletsfest-activity-6971308235437817856-BvRz/?trk=public_profile_like_view&originalSubdomain=in

The Department of Nutrition and Dietetics, Faculty of Allied Health Science in association with ICAR- Indian Institute of Millet Research, Hyderabad organized a one-day Millet Fest with the theme: "MILLETS FOR NUTRITION, HEALTH, FITNESS AND SPORTS PERFORMANCE" on 14 September 2022 during National Nutrition Month. The event was an initiative towards run up to the International Year of Millets 2023 led by Ministry of Agriculture and Farmers Welfare, Government of India and to promote production, consumption and create awareness about millets. Many esteemed dignitaries the event namely Dr. Raj Bhandari, Member, National Technical Board on Nutrition, NitiAayog as the chief guest, Dr B. DayakarRao, CEO- Nutrihub, ICAR-IIMR as the guest of honor Prof. (Dr) ArunangshuMukherji, Director, CAWTM, MRIIRS, DrShwetaKhandelwal, Head, Nutrition Research, PHFI and Dr Ashok Kumar, Dean, SGT University, Gurgaon. Mr RK Arora, Registrar, MRIIRS along with PVC Dr GL Khanna, Dean Dr MR Rizvi graced the occasion and welcomed the chief guest and the guest of honor.

Dr. DayakarRao, CEO-Nutrihub, IIMR, delivered the keynote address and disseminated the knowledge related millets, processing, health benefits, agribusiness linkages, and ongoing work at IIMR. A Panel discussion on Mainstreaming of Millets for nutrition, health, fitness and sports performance was conducted wherein all the guests discussed the importance of millets in day-to-day life. Dr. Raj Bhandari, Chief Guest chaired the panel discussion.

The millet fest has technical sessions, exhibitions of various startups, new products created by the students of Department of Nutrition and Dietetics and Faculty of Hotel Management. Recipe and poster competitions were conducted. Around 25 groups participated in the recipe competition from different universities and colleges and 20 groups participated in the poster competition from different schools and colleges in Delhi-NCR.



Millet fest Celebration



Dr. G.L. Khanna, PVC, MRIIRS; Dr. Rizvi, Dean, FAHS and faculty members of FAHS

III. 7th National Ayurveda day

Department of Nutrition and Dietetics, Faculty of Allied Health Sciences and ManavRachna Center of Excellence: Food, Healthcare and Nutrition have jointly organized 7th National Ayurveda Day on 19th Oct, 2022. This programme was organized with the special objective to promote the Ayurveda at household level. The day was started with the inauguration of Kitchen Garden by all the eminent people, Chief guest Dr. Ishwar V. Basavaraddi, Director, Morarji Desai National Institute of Yoga, Ministry of AYUSH, GOI, Dr. Rajagopala S Bhat, Associate Professor & Sr. Consultant, All India Institute of Ayurveda (AIIA), New Delhi; Dr. SasibhushanVedula, Senior Manager, R&D, Healthcare, Dabur India Ltd, Prof. (Dr.) Sanjay Shrivastva, Hon'ble Vice Chancellor, Prof. (Dr.) GL Khanna Pro-Vice Chancellor, Prof. (Dr.) MoattarRazaRizvi, Dean and Prof (Dr.) DivyaSanghi, HOD, Department of Nutrition and Dietetics. This garden was established with the intention of introducing students to the variety, significance, and uses of herbs in cooking. The department has held recipe and poster competitions as well to inspire students to use herbs and turn their attention to Ayurveda. The lectures were given by the experts. They shared information on current research and potential future prospects of ayurveda. They also encouraged students to utilized our ancient practices to improve many health conditions.



Herbal garden at Q Block

IV. Dietetics Day 2023 - Workshop consist of Healthy Recipe Competition and demonstration of recipes created by Nestle

Department of Nutrition and Dietetics, Faculty of Allied Health Sciences celebrated Dietetics day 2023 in collaboration with Nestle Pvt. Ltd. On Dietetics day the department of Nutrition organized a recipes competition Entitled MeriMaggic Savory Challenge. The students have to prepare healthy recipes by using Maggic masala of Nestle. About 20 recipes were formulated and presented in front of Judges. Mr. Lee, Chef from culinary sciences, MRIIRS and Dr. Pratibha Singh, Professor, Department of Nutrition and Dietetics, MRIIRS judged the participants on taste, texture, concept, nutritional value and acceptability of the product. The competition was exciting for students and faculty members. Followed by recipe competition, demonstration of healthy recipes was done by the Ms. Vini, experts at Nestle. He demonstrated many recipes like carrot cake, healthy chart and many more by using Nestle products. The demonstration was innovative and very interactive. They also provide oats cornflakes to be distributed among students of Department of Nutrition and Dietetics and Physiotherapy.



Chef Lee evaluating the food

V. Industrial Interaction: Exploring Opportunities in Nutrition Sector

Today's fast paced development and growth of industries in the field of food require the students to explore opportunities and job prospects in food, supplements industry. To keep this vision in mind, a one-day interaction was organized by Department of Nutrition and Dietetics, Faculty of Allied Health Sciences organized on 25th April 2023 to explore opportunities in Nutrition Sector. DrNeerja has discussed about the various verticals and role of nutrition students in supplements and probiotics industries. She has stressed on quality education and gathering of multidisciplinary information to make their self fit for industry. She also discussed about zero calories products, low sodium products, product for high altitude and latitude etc and their research and development procedures.

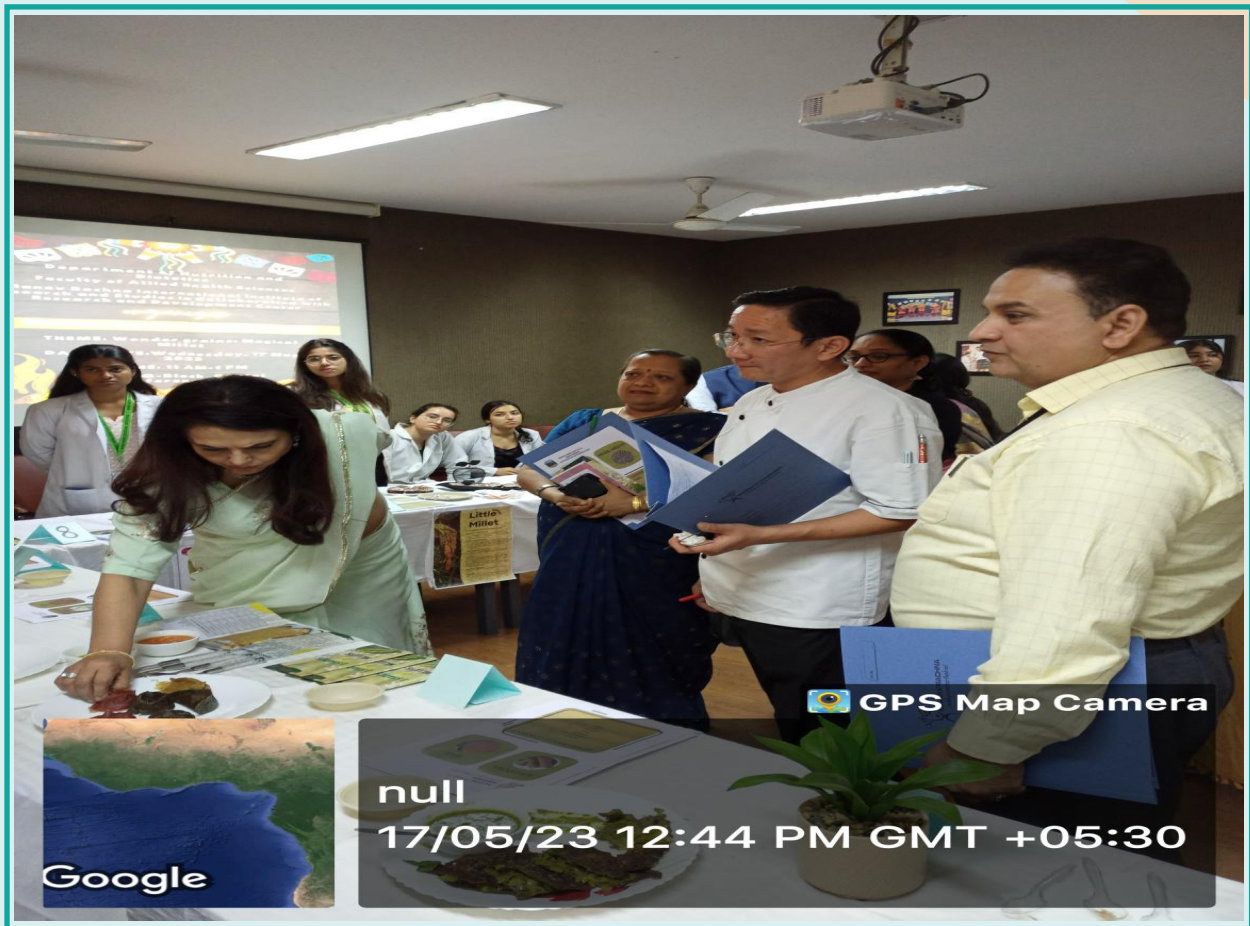
Being in Probiotics industry she has given good insight of the probiotics, prebiotics and their role in improving the gut health. The session was ended with the vote of thanks by Dr. UshaPanjwani, Professor of Practice, FAHS. Students were very excited and asked many questions.



Dr. Neerja Hajela taking the session

VI. Millet Recipe Competition

Department of Nutrition and Dietetics, Faculty of Allied Health Sciences in collaboration with Research and Development center, MRIIRS celebrated International Millet Year 2023. On 17th May 2023, the department of Nutrition and Dietetics organized a Millet Recipes competition with the theme of "Wonder Grains: Magical Millets". The students have to prepare healthy recipes by using Millet and created posters and pamphlets to describe the nutritional properties of recipe and their innovation techniques. About 17 recipes were formulated and presented in front of Judges. Dr. Veena Singh, Former Director General, Health Services, Haryana; Mr. Lee, Chef from culinary sciences, MRIIRS and Dr. M. Rizvi, Dean and Professor, Faculty of Allied Health Sciences, MRIIRS judged the participants on taste, texture, concept, nutritional value and acceptability of the product. The competition was exciting for students and faculty members. Dr. Veena Singh and Chef Lee gave their expertise opinion and insight to improve their dishes or for developing a startup company. The winner was Ms. Muskan Gupta, student of MSc. Nutrition and Dietetics, Final Year. She created Momos by using millets in different colors and textures.



Dr. Veen Singh, DG, Health Services evaluating the food

VII. BREAST FEEDING WEEK, 2023

Women should not have to choose between breastfeeding their children and their work. World Breastfeeding Week is celebrated in the first week of August every year, supported by WHO, UNICEF and many Ministries of Health and civil society partners. This year's theme is focusing on breastfeeding and work, providing a strategic opportunity to advocate for essential maternity rights that support breastfeeding, maternity leave for a minimum of 18 weeks, ideally more than 6 months, and workplace accommodations after this point. In view of this, School of Allied Health topics covering the breastfeeding importance, rights of mother (working/non-working), disadvantages of non-breastfeeding to mother and infant, government initiatives to promote breastfeeding etc. The experts from various fields Sciences, Department of nutrition & Dietetics, MRIIRS has initiated awareness by conducting a webinar series (Zoom platform), poster competition and a panel discussion on various such as nutritionist, paediatrician, gynaecologist and ministry personnel had delivered the talk.



World Breast Feeding week (1st-7th August)



ENABLING BREASTFEEDING

Making a difference
for working parents

UNICEF | WORLD BREASTFEEDING WEEK 2023



Panel Discussion

Panel Experts:



7th August 2023 (1:00-3:00 PM)



Ms Purnima Thakur
Assistant Director,
MWCD, New Delhi



Dr Divya Choudhary,
Chief Clinical Nutritionist,
Rajiv Gandhi Cancer
Institute & Research Centre,
New Delhi
Life Time Member of IDA &
IAPEN



Dr. Megha Consul,
MD (Pediatrics),
DNB (Pediatrics), Clinical
Fellowship Neonatal & Perinatal
Medicine, Senior Consultant &
Unit Head- Neonatology



Ms Rohini Saran
Lead - Nutrition
(South Asia Hub)

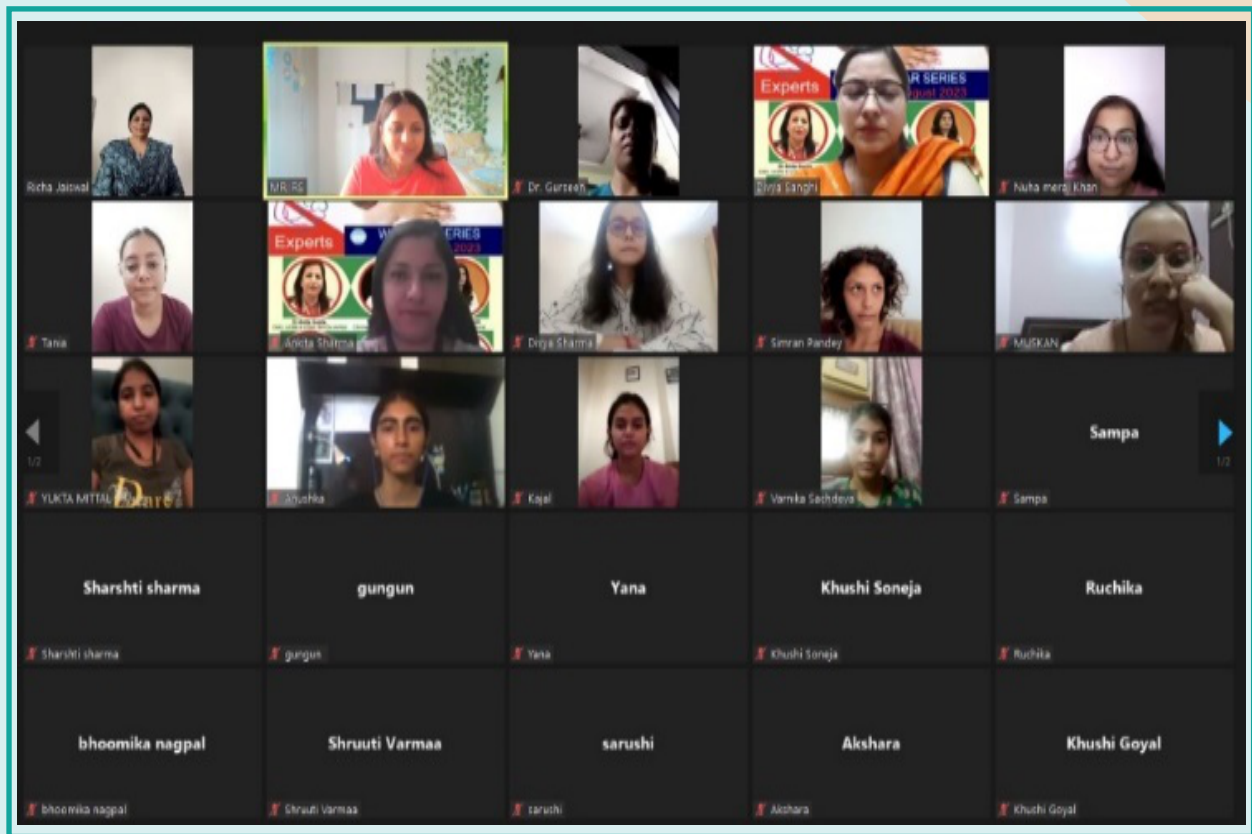
Registration Link:

<https://forms.gle/9a2FdExDVnPg5F6g9>

MEETING LINK: Join Zoom Meeting

<https://mrvgl.zoom.us/j/94984948131>

Meeting ID: 949 8494 8131



Participants in the event

VIII. RALLY ON STOP MALNUTRITION

Department of Nutrition and Dietetics, School of Allied Health Sciences, MRIIRS conducted a rally on STOP MALNUTRITION on 18th August 2023. The students of BSc Nutrition and Dietetics 5th semester along with faculty member Ms. Anika Sharma, Assistant professor and Dr. Divya Sanghi, Head of the Department, Department of Nutrition and Dietetics conducted a rally on STOP MALNUTRITION to create awareness among the masses regarding the ill effects of malnutrition. India as a country is still fighting with problem of malnutrition. The prime causes are poverty; unemployment; ignorance and lack of education; unhealthy lifestyle; lack of access to nutritious food, safe water, sanitation and hygiene; non-availability of reliable and timely data, and sufficient funds; and unimpressive performance by the government in the implementation of schemes. Most of the reasons for the occurrence of malnutrition, as well as the solutions to overcome the challenges, are known. Attention, however, needs to be paid to understanding what prevents the nation from achieving its goals related to nutrition. Keeping these problems in mind, the students of BSc Nutrition and Dietetics 5th semester through this rally made people aware about the three types of malnutrition namely, underweight, overweight and obesity. The causes, symptoms and preventive strategies were showcased by the students. The rally was done at various sites of the university to spread the message effectively to large number of people.

Overall the students enjoyed the activity disseminating this important message.



Students started the rally on Combat Malnutrition



Students addressed the triple burden of India

IX. UTTAM POSHAN UTTAM JEEVAN PLEDGE

Department of Nutrition and Dietetics, School of Allied Health Sciences, MRIIRS conducted a Uttam Poshan Uttam Jeevan pledge on 18th August 2023. This government initiative is taken by all the students of Department of Nutrition and Physiotherapy.

The pledge was as following:

-
- On this day I take a pledge that i will protect ourselves and our beloved from the curse of malnutrition. I pledge that I will keep myself well nourished and protect others from malnutrition.
- I will not purchase, promote, use or gift junk foods and unhealthy soft drinks
- I will take and promote balanced diet
- I will adopt and promote safe cooking and eating habits
- I will keep myself informed about healthy foods and food habits
- I will not waste food
- I pledge to be physically active by participating in outdoor games/ sports/ exercises and yoga on a regular basis and sleep for at least 8 hours
- I pledge to conserve water and not dirty any water bodies.

Link: <https://pledge.mygov.in/uttam-poshan-uttam-jeevan/>



Certificate Received by students



Certificate Received by students



Students while taking pledge

X. Manav Rachna Centre for Medicinal Plant Pathology (MR-CMPP)

<https://manavrachna.edu.in/manav-rachna-centre-for-medicinal-plant-pathology/>

Quality Council of India (QCI) (established by the Government of India) has invited Manav Rachna Centre For Medicinal Plant Pathology (MR-CMPP) for sponsored collaborative research under Voluntary Certification Scheme for Medicinal Plant Produce (VCSMPP). This also has a reference from the State Medicinal Plants Board (SMPB), Haryana.

They intend to have a partnership comprising the following 4 aspects:

1. Experts to develop packages of practices for cultivation and collection of the various medicinal plant species
2. Certification of Demo Plots (Group certification) for medicinal plants growers, collectors, and areas.
3. Training and sensitization workshops for producers, consumers, Government Departments, State Forest Department officers etc.
4. One day Training program (Workshop) on GAP or GFCP of Medicinal Plants

Under this collaboration a capacity building cum sensitization training under the Voluntary Certification Scheme for Medicinal Plant Produce (VCSMPP) is scheduled in Manav Rachna International Institute of Research and Studies on 19th November 2022 One (1) day training program (Workshop) on GAP or GFCP for Medicinal Plant and caters to 50 farmers (majorly) from NCR Haryana.

4.5 PROCUREMENT OF RAW INGREDIENTS AND DIFFERENT FOOD COMMODITIES ARE FROM THE TRUSTE VENDORS.

Procurement of raw ingredients and different food commodities are from the trusted sources/vendors

It is ensured that procurement of raw ingredients and different food commodities are from the trusted sources/vendors. Further, it is also ensured that vendors provide natural organic products with the permissible amount of pesticide and without any exposure of chemical fertilizers. Therefore, offering of sustainable food choices on MRIIRS Campus is ensured through this whole process.

5. EVENTS FOR LOCAL FARMERS AND FOOD PRODUCERS

By recognizing and categorizing resources, types and breeds, small- scale farmers with advanced agro-ecological knowledge, innovation, and practices can make a significant contribution to the success of SDG . Establishing equitable collaboration between pastoral and farming communities and the intuitional plant science industry, including seed banks, in necessary. Small- scale farmers and their communities are likely to priorities different resources depending on their personal needs. Through conferences and seminars, MRIIRS gives farmer a forum to meet with and ask question of specialists in the fields of agriculture and nutrition.

A. Events Organized for Farmers:

I. National Conference On “Emerging Technologies and Enabling Tools For Eco-Friendly Management Of Diseases In Medicinal & Aromatic Plants” (EEEDMAP 2022): Access to food security/ sustainable agriculture

Department of Biotechnology and MR Centre For Medicinal Plant Pathology (MR-CMPP) FET, Manav Rachna International Institute of Research and Studies organized a two-day National Conference on “Emerging Technologies and Enabling Tools for Eco-Friendly Management of Diseases in Medicinal & Aromatic Plants” (EEEDMAP 2022) which was supported by the National Medicinal Plants Board (NMPB), Ministry of AYUSH, Government of India (GOI). The conference was attended by students, faculty members, local farmers and participants from all over India, viz CSIR-NIScPR, Pusa, University of Patanjali, Haridwar, University of Delhi, Delhi, Banasthali Vidhyapeeth, Madurai Kamraj University, Tamil Nadu, JNV University, Jodhpur, UPES, Dehradun, MIT, Pune, JP Institute of Technology, Noida, JECRC University, Jaipur, Shoolini University, Solan, HP, Banaras Hindu University, Banaras, GGSIP University, Delhi, and MDU, Rohtak.

The inaugural session was graced by the Chief Guest Dr. Chandrashekhar Sanwal, Deputy CEO, IFS, NMPB, Ministry of AYUSH, GOI. The ceremony also witnessed the presence of Hon'ble Keynote Speaker, Prof. P.C. Trivedi, Former Vice Chancellor- 5 Universities; Dr Sanjay Srivastava, Vice Chancellor, MRIIRS; Dr. Pradeep Kumar, Pro-Vice Chancellor and Dean, Faculty of Engineering and Technology; Mr. R. K Arora, Registrar MRIIRS. Prof. (Dr.) Nidhi Didwania , Convener, highlighted the objective of the conference “Health of Healthy Plants”.

**NATIONAL CONFERENCE ON
EMERGING TECHNOLOGIES AND ENABLING TOOLS FOR ECO-FRIENDLY
MANAGEMENT OF DISEASES OF MEDICINAL & AROMATIC PLANTS (MAPs)
(EEDMAP-2022)**

29TH - 30TH SEPTEMBER, 2022

MANAV RACHNA INTERNATIONAL
INSTITUTE OF RESEARCH AND STUDIES

Deemed-to-be University under section 3 of the UGC Act, 1956
NAAC ACCREDITED A GRADE INSTITUTION

SCOPE OF THE CONFERENCE

According to the Botanical Survey of India, India is home to more than 8,000 species of medicinal plants. The country has a rich history of traditional healing systems, many of which still use these plants. According to the WHO, at least 25% of all modern medicines are derived, either directly or indirectly, from medicinal plants. The Indian forests are the principal repositories of large number of medicinal and aromatic plants, from where the raw materials are collected predominantly for manufacture of drugs and perfumery products.

As one of the measures to conserve the precious species, commercial cultivation began which inadvertently brought the problem of pests and diseases leading to crop loss of various magnitude. Also, too much emphasis has been put on the potential for discovering new wonder drugs, and merge on the innumerable problems associated with the already known and cultivated MAPs. Medicinal plants are vulnerable to be attacked by several pathogens causing crop loss in terms of both quantity as well as quality. Post-harvest loss is also a great problem of medicinal plants, where toxins are produced by the pathogens. Thus, plant diseases create challenging problems in commercial agriculture and pose real economic threats. Therefore, the "health of these healthy plants" should be concerned. Medicinal plants being used in health-care system and chemical methods of management of pests and diseases are becoming obsolete. It is a must that non-chemical, eco-friendly safe methods of management are essential. Preparedness for combating against the biotic stresses of medicinal plants is prerequisite for horizon

expansion of medicinal plants coverage in future. The medicinal plants need to be conserved effectively for the future and the time is right to utilize the global demand for Indian Medicinal plants and their bioactive metabolites by sustainable production of healthy and diseases free quality plant material through emerging technologies, bioprotectives & biotechnological tools. The proposed conference will provide a platform to discuss and provide a framework for the conservation and sustainable use of plants in medicine. The conference aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results on different aspects of Medicinal and Aromatic Plants. This will not only enlighten the young scientist, faculty, students, researchers, conservationists, academicians from different disciplines viz. Biological Sciences, Biotechnology, Agronomy, Pharma & Medicine, Alternative medicine etc. about the supreme importance of Medicinal & Aromatic Plants but also will open their mind for the research work to be carried out in this highly potential field. It also provides a

prime interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields against major pathogens of Medicinal and Aromatic Plants. We hope to make this national gathering on medicinal and aromatic plants particularly educational and inspiring for young scientists who will get an opportunity to interact with leading experts.

Prof. P.C. Trivedi gave an insight about the phytodiversity and talked about the Eco-Friendly Management of Diseases of Medicinal & Aromatic Plants. This was followed by two sessions which were conducted by Dr. A N Shukla, Scientist E, Biodiversity Division of the Ministry of Environment, Forest and Climate Change (MoEF & CC), New Delhi; Dr. Jeetendra Kumar Vaishya, Research Officer (Medicinal Plants / Agronomy), National Medicinal Plants Board, Ministry of AYUSH, Government of India, Mr. Sameer Kant Ahuja, Chief Manager, Regulatory Multani Pharmaceuticals Ltd. and Mrs. Reeva Sood, Director, Tanishka Herbals.

On the second day, the progressive farmers from Faridabad & Palwal, Mr. Bijendra Singh Dalal & team participated in the conference with full enthusiasm and were interested in cultivation of Medicinal Plants with the support of MR-CMPP, MRIIRS and NMPB. This was followed by a lecture session (invited talk) by Eminent Scientist, Professor N K Dubey, Head, Department of Botany, Faculty of Science, Banaras Hindu University, Varanasi. He delivered an exceptional talk in which he emphasized the importance of botanical pesticides with reference to the origin of mycotoxin and how nature had played the role of doctor in the absence of advancement in the past.

Following this Dr. A. A. Ansari, Former Scientist E, Botanical Survey of India (BSI), famously known as the "Crotolaria Man", delivered a detailed overview on plant pathogens on different species of medicinal plants.

Dr. Jeetendra Vaishya, National Medicinal Plants Board (NMPB) highlighted the following recommendations made by the participants: Strategies should be in place for the post-harvest management of the medicinal plant produce; Need of inventorization and

taxonomic identification of biodiversity in the Aravalli ranges for conservation of Medicinal Plants; and Special attention is to be made to the utilization of resources (agro-economics) whereby farmers should be made aware of the expensive medicinal plants so that they may expand their cultivation.

NMPB supported the recommendations and agreed to extend full support for carrying out research and extension activities in the newly established Manav Rachna Centre for Medicinal Plant Pathology (MR-CMPP). The proposed conference provided a platform to discuss and provide a framework for the conservation and sustainable use of Medicinal & Aromatic plants.



Participation of farmers and agricultural experts in National Conference



Home > Faridabad NCR

Faridabad NCR

Haryana

Hindustan ab tak special

मानव रचना ने “औषधीय और सुगंधित पौधों में रोगों के इको-फ्रेंडली प्रबंधन के लिए इमर्जिंग टेक्नोलॉजीज एंड इनेबलिंग टूल्स” पर राष्ट्रीय सम्मेलन का किया आयोजन

By **Dinesh Bhardwaj** - October 3, 2022

115

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Faridabad Hindustan ab tak/Dinesh Bhardwaj : 3 अक्टूबर। डिपार्टमेंट ऑफ बायोटेक्नोलॉजी एंड एमआर सेंटर फॉर मेडिसिनल प्लांट पैथोलॉजी (एमआर – सीएमपीपी), फैकल्टी ऑफ़ इंजीनियरिंग एंड टेक्नोलॉजी, मानव रचना इंटरनेशनल

Home >

मानव रचना ने “औषधीय और सुगंधित पौधों में रोगों के इको-फ्रेंडली प्रबंधन के लिए इमर्जिंग टेक्नोलॉजीज एंड इनेबलिंग टूल्स” पर राष्ट्रीय सम्मेलन का आयोजन किया

By Spbharat — On Oct 3, 2022



II. Distribution of Hybrid Bajra Seeds to Local Farmers at Pali, Faridabad on 23rd May 2023 at Pali and Mohtabad Villages, Faridabad

The distribution of hybrid bajra seeds to local farmers in Pali, Faridabad, was a successful event that aimed to enhance agricultural productivity and promote sustainable farming practices. The positive feedback received from the participating farmers indicates the potential for increased yields and improved livelihoods in the region. However, it is essential to address the challenges faced and continuously support farmers in adopting modern agricultural techniques.

Organized By: MRCMPP & MRCAWTM, MRIIRS

1. The distribution event was held on 23rd May 2023 in Pali and Mohtabad villages, Faridabad. The choice of the venue ensured accessibility for a large number of local farmers.

2. The event saw the participation of approximately 100 local farmers from the Pali region, along with MRCMPP & MRCAWTM team members and volunteers. (Dr. Nidhi Didwania, Dr. A Mukherjee, Ms. Sneha Rai and Atal Bhujal Yojna team)

3. Objectives: The primary objectives of the distribution event were:

- To provide local farmers with high-quality hybrid bajra seeds.
- To educate farmers on the benefits of hybrid seeds in terms of yield and disease resistance.
- To promote sustainable agricultural practices and crop diversification.

4. Distribution Process: The distribution process was well-organized and followed these steps:

- Registration: Farmers were registered upon arrival, and their details were recorded for future reference.
- Seed Distribution: Each registered farmer received a specified quantity of hybrid bajra seeds based on their landholding and requirements.
- Training and Information: Before the distribution, an informative session was conducted to educate farmers about the advantages of hybrid seeds, proper planting techniques, and crop management practices.
- Q&A Session: A question-and-answer session followed the training to address any queries and concerns from the farmers.

Seed Distribution Statistics:

- Total number of farmers who received seeds: [Total Number of Beneficiary Farmers]
- Total quantity of hybrid bajra seeds distributed: [Total Quantity in kg or bags]
- Average landholding per farmer: [Average Landholding in acres/hectares]
- Quantity of seeds distributed per farmer: [Quantity per Farmer in kg or bags]

Feedback and Impact:

Feedback from the participating farmers was overwhelmingly positive. They expressed appreciation for the initiative and the valuable knowledge shared during the training session. Farmers were enthusiastic about implementing the best practices discussed and expected higher yields in the upcoming harvest season.

Conclusion:

The distribution of hybrid bajra seeds to local farmers in Pali, Faridabad, was a successful event that aimed to enhance agricultural productivity and promote sustainable farming practices. The positive feedback received from the participating farmers indicates the potential for increased yields and improved livelihoods in the region. However, it is essential to address the challenges faced and continuously support farmers in adopting modern agricultural techniques.

This report serves as a record of the distribution event's activities and outcomes and will be valuable for planning future agricultural initiatives in the region.





III. Manav Rachna Start-up Initiatives for Sustainable Agriculture And Support Farmers



M/s Team Tricho Agronica Pvt. Ltd

In the recent years there has been a heart warming paradigm shift of demographics in the Indian corporate landscape and the country has witnessed a titanic surge in the number of women entering the economic wave. M/s Tricho Agronica Pvt Ltd, Department of Biotechnology, Faculty of Engineering & Technology, MRIIRS is the Start-Up company have all women team members as stake holders. The Start-Up has received a grant of Rs 172 lacs under Indian Oil Startup Scheme (IOSUS), a "Start-up India" initiative that aims to support innovative ideas that have significant business potential, social relevance and/or are focused on environment protection. Further, such validated PoCs may be supported for commercialization through equity participation. The vision of the company is to provide Lab to Land- an eco-friendly approach. It aims to promote, develop and provide eco friendly products and technologies in safer, cost effective and sustainable manner. The mission of the company involves an eco friendly approach for sustainable agriculture understanding the nature of market, farmer's aspirations and providing appropriate solution to them through organic farming keeping in mind the environment and health issues. Injudicious and long period utilization of synthetic agrochemicals in agriculture has led to toxic pesticide residues, appearance of pests, resistance and resurgence, environmental contaminations, negative impacts on human health and non-target organisms thus, leading to pernicious effects on food chain of the ecosystem. This has forced the researchers and pesticide industries to shift their focus to more reliable, sustainable and eco-friendly products. Bio formulations are a potential alternative to currently used agrochemicals and the need of the hour. The global biopesticides market was worth US\$3.3 billion in 2017 and the opportunity in the market is projected to surge to a valuation of US\$9.5 billion by 2025. The market is anticipated to rise at an impressive CAGR of 13.9% during the forecast period 2017–2025. Keeping these perspectives in view the company has designed its first bio formulation product „Bio elixir“ which is a remedy for bull's eye pathogen at low cost. The synergistic effect of the bio elixir constituents has the capability to increase systemic resistance in plants by increasing photosynthesis process in plants. It is the bio fertilizer and a bio fungicide organic formulation which is available in the powder form. It is a non-chemical based formulation to reduce disease of tomato plant combining with features for enhancing soil structure and fertility, maintaining soil biological activities and promoting plant growth & biomass. The farmers will be highly benefited as it is very effective against those Alternaria isolates which has developed resistance against chemical fungicides. This will not only promote biodynamic agriculture but will also encourage eco-friendly sustainable lifestyle. M/s Tricho Agronica Pvt. Ltd. stands in spirit to this endeavor and is also committed for consolidating efforts towards improving crop productivity leading to food security with enhanced organic footprints. Dr. Nidhi Didwania-Managing Director Dr. Sarita Sachdeva-Director Dr. Abhilasha Shourie-Director Ms. Deepti Sadana-Director



Crop Cycle



Crop cycle at BCKV, Kalyani



Appreciation given by Sh. Atul Kothari, Secretary, Shiksha Sanskriti Uttan Nyas, New Delhi and Sh. Subodh Bishnoi Ji, S K Rajasthan Agricultural University, Agriculture Research Station, Ganganagar Appreciation given by Sh. Atul Kothari, Secretary, Shiksha Sanskriti Uttan Nyas, New Delhi and Sh. Subodh Bishnoi Ji, S K Rajasthan Agricultural University, Agriculture Research Station, Ganganagar



Exhibited Tricho Agronica Pvt. Ltd. at IASE University (Institute of Advanced Studies in Education) in Sadar Sahar, Rajasthan.

Field visit for disease identification and management in tomato at Aurangabad, Palwal on 19th January 2023

A field visit was conducted on 19 January, 2023, in Aurangabad, Palwal, with the primary objective of identifying and managing diseases in tomato crops. The visit aimed to assess the prevailing disease situation in tomato fields and provide recommendations for effective disease management to improve crop yield and quality.

Participants:

- Local Farmers and Tomato Growers

Field Observations:

1. Location and Climate: Aurangabad, Palwal, is characterized by a subtropical climate, which is conducive to tomato cultivation. The region has experienced consistent rainfall in the past few weeks, creating favorable conditions for diseases.

2. Crop Stage: The tomato crops observed during the field visit were in various growth stages, from seedlings to mature fruit-bearing plants.

3. Disease Symptoms:

- Early Blight (*Alternaria solani*): Early blight symptoms were prevalent, characterized by circular brown lesions with dark concentric rings on the lower leaves of the tomato plants.
- Late Blight (*Phytophthora infestans*): Symptoms of late blight, including water-soaked lesions on leaves, stem, and fruits, were observed in some fields.
- Bacterial Spot (*Xanthomonas campestris* pv. *vesicatoria*): Bacterial spot symptoms included small, dark, raised lesions with a water-soaked appearance on leaves and fruits.
- Tomato Yellow Leaf Curl Virus (TYLCV): Some plants exhibited symptoms of TYLCV, including yellowing and curling of leaves.

4. Cultural Practices:

- Crop rotation was not consistently practiced, contributing to disease build up in some fields.
- Limited spacing between plants was observed, leading to poor air circulation and increased disease pressure.

Recommendations:

1. Biofungicide and Bactericide Application: Farmers should apply appropriate biofungicides and bactericides following recommended dosage and schedules to manage early blight, late blight, and bacterial spot. Consultation with MRCMPP is advised for product selection and application guidelines.

2. Sanitation: Remove and destroy infected plant debris to reduce disease inoculum. Proper sanitation practices can help minimize disease spread.

3. Crop Rotation: Encourage farmers to practice crop rotation to break disease cycles. Avoid planting tomatoes in the same field consecutively.

4. Spacing: Maintain adequate spacing between tomato plants to ensure better air circulation and reduce humidity, which can minimize disease incidence.

5. Virus Management: For TYLCV, control the vector (whiteflies) through bioinsecticide applications and the use of reflective mulch. Resistant tomato varieties may also be considered.

6. Training and Awareness: Conduct training sessions for local farmers on disease identification, prevention, and management practices to enhance their knowledge and skills.

7. Regular Monitoring: Farmers should regularly monitor their fields for disease symptoms and take timely action to prevent disease outbreaks.

Conclusion: The field visit to Aurangabad, Palwal, highlighted the presence of several tomato diseases, including early blight, late blight, bacterial spot, and TYLCV. Effective disease management strategies, such as timely application of fungicides and bactericides, crop rotation, proper spacing, and sanitation, are essential to mitigate the impact of these diseases on tomato crops. Furthermore, farmer education and awareness programs are crucial for long-term disease management and sustainable tomato cultivation in the region.



IV. Good Agriculture Practices of Voluntary Certification Scheme for Medicinal Plant Produce

Manav Rachna Centre For Medicinal Plant Pathology (MRCMPP), Department of Biotechnology, MRIIRS jointly with Quality Council of India (QCI) organised One-day GAP training workshop on Voluntary Certification Scheme for Medicinal Plants produce (VCSMPP) for farmers on 19 November 2022. Medicinal plants, being the raw material for AYUSH medicines, account for around 90% of AYUSH formulations, which practically implies that the sustainability of the AYUSH traditional medicinal system is based on the degree of care with which medicinal plants are handled. Medicinal plants are at the core of providing livelihood and health security to a large segment of the Indian population associated with the traditional medicine and herbal industry.

A total of 43 progressive farmers from Faridabad, Palwal, and Gurugram districts of Haryana either growing Medicinal Plants or interested to start Medicinal Plants cultivation participated in the workshop with full enthusiasm. The farmers were encouraged to form a Farmer Producer Organization (FPO). The inaugural session was followed by technical sessions from the experts of QCI, MRCMPP and MRCAWTM. The farmers were sensitized regarding Good Agricultural practices, Post-harvest conservation and improvement of quality of Medicinal Plant Produce, Management of diseases caused by fungi, bacteria & viruses in Medicinal Plants & Voluntary Certification Scheme for Medicinal Plant Produce through capacity building. QCI invited the farmers (FPO) for free certification of demo plots of Medicinal plants which can help farmers to have better opportunities in the market and help increase their income. Shri Mahaveer Malik also shared his experience of selecting the sustainable spp. of Medicinal Plants for agro-climatic zone of Haryana.

Progressive farmer Shri Bijendra Singh Dalal & team highly appreciated the efforts by MRCMPP, Manav Rachna International Institute of Research & Studies in providing a platform to farmers to discuss about good agricultural practices of Medicinal Plants and solving their queries.



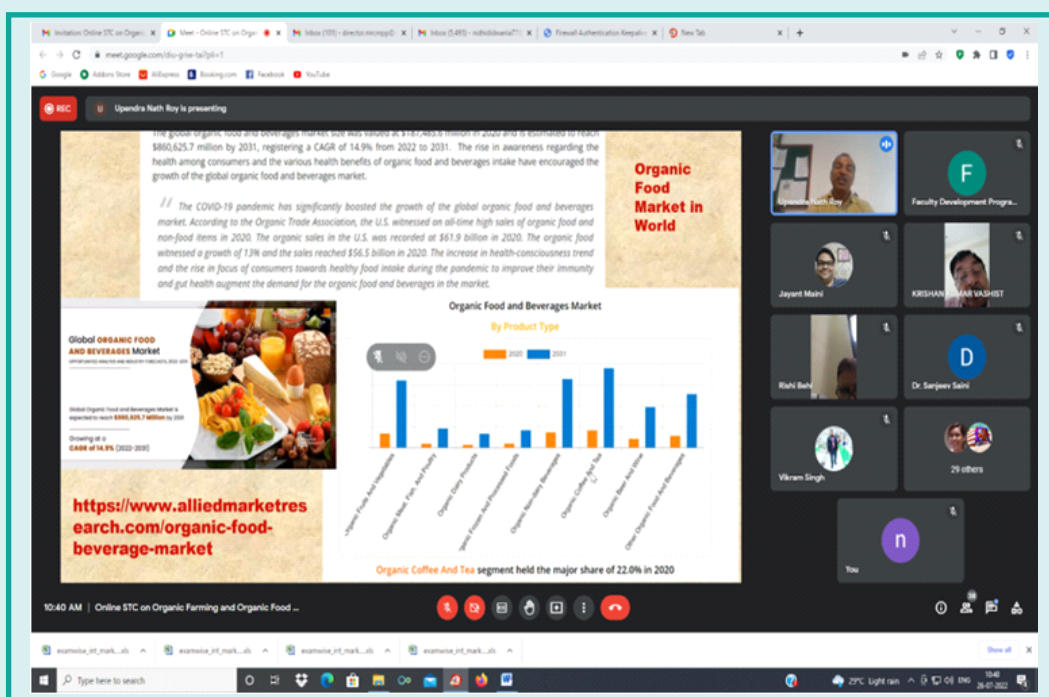
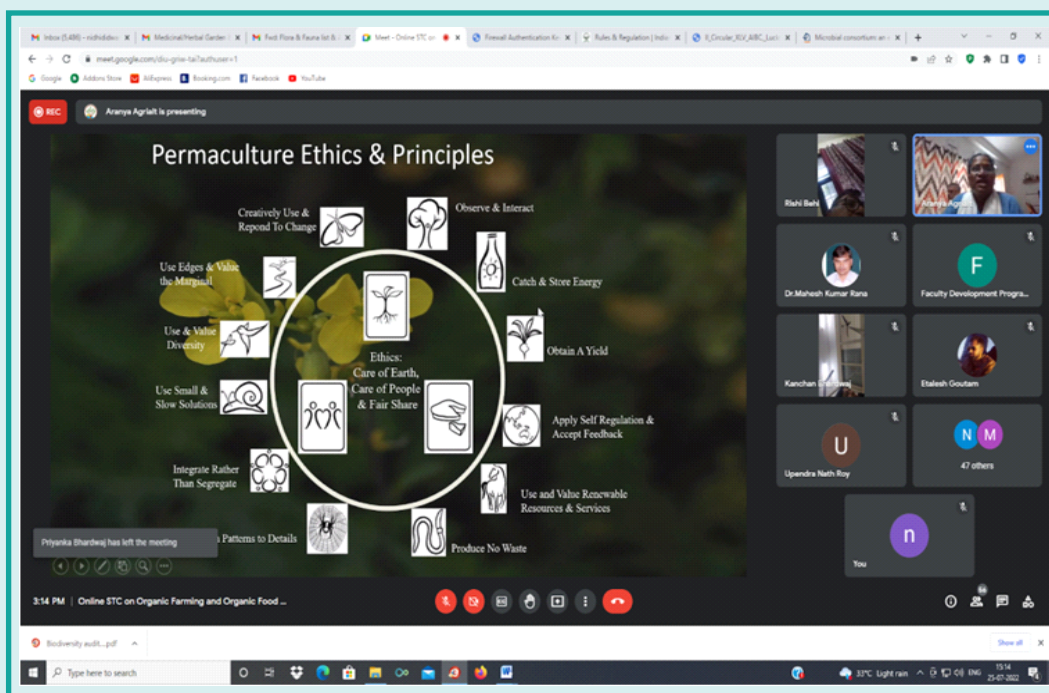
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V. FDP on Organic Farming and Food Marketing

A Five days' faculty development program on "Organic Farming and Food Marketing" in association with NITTR, Chandigarh was organized by Department of Biotechnology, Faculty of Engineering & Technology, MRIIRS from 25-29 July, 2022. The target audience for the FDP were faculty members of MRIIRS. The aim of the FDP was to provide opportunities to educate the young as well as senior faculty members about the Organic Farming so that further they can impart the knowledge to the farmers through awareness sessions. The week-long FDP covered various topics and challenges related to Organic Farming. The FDP started with a discussion on the history of farming where Rishi farming, traditional farming (using cow dung/compost), natural farming (proposed by Masanobu Fukuoka). Natural farming (one straw revolution) was highlighted, which was based on four principles which were no tillage, no fertilizers, no weeding and no chemicals.



VI. Manav Rachna Centre for Medicinal Plant Pathology (MR-CMPP)

Quality Council of India (QCI) (established by the Government of India) shown interest with Manav Rachna Centre For Medicinal Plant Pathology (MR-CMPP) for sponsored collaborative research under Voluntary Certification Scheme for Medicinal Plant Produce (VCSMPP). This also has a reference from the State Medicinal Plants Board (SMPB), Haryana.

They intend to have a partnership comprising the following 4 aspects:

1. Experts to develop packages of practices for cultivation and collection of the various medicinal plant species
2. Certification of Demo Plots (Group certification) for medicinal plants growers, collectors, and areas.
3. Training and sensitization workshops for producers, consumers, Government Departments, State Forest Department officers etc.
4. One day Training program (Workshop) on GAP or GFCP of Medicinal Plants

Under this collaboration a capacity building cum sensitization training under the Voluntary Certification Scheme for Medicinal Plant Produce (VCSMPP) is scheduled in Manav Rachna International Institute of Research and Studies on 19th November 2022 One (1) day training program (Workshop) on GAP or GFCP for Medicinal Plant and caters to 50 farmers (majorly) from NCR Haryana.

<https://manavrachna.edu.in/manav-rachna-centre-for-medicinal-plant-pathology/>

VII. Manav Rachna Start-up Initiatives for Sustainable Agriculture And Support Farmers

TRICHO AGRONICA PVT. LTD
Lab to Land: An eco friendly approach

FIELD TRIALS IN 4 AGRO-CLIMATIC ZONES

RECOMENDATIONS

SKUAST, Srinagar: Foliar spray with oil bioformulation at 1×10^8 CFU can replace 75% chemical in controlling Septoria leaf spot, Cercospora leaf spot, early blight, late blight, buckeye fruit rot and Alternaria fruit rot disease and also increase the yield of 25.22%.

UHS, Bengaluru: Spray with oil bioformulation at 1×10^8 CFU can replace 50% chemical in reducing the intensity of early and late blight disease of tomato and also increase the yield of 97.47%.

IARI, Delhi: Oil bioformulation at 1×10^8 CFU was effective against fungal and bacterial diseases and enhance early flowering and fruiting in the tomato plant at lower doses like 4 and 6 ml per liter twice in one crop season.

MRIIRS Campus, Sector-43, Aravali Hills
Faridabad - 121004 (Haryana) INDIA Phone: 0129-4198293

<https://manavrachna.edu.in/newgeniedc/ongoing-startups/#:~:text=Tricho%20Agronica%20Pvt.&text=Tricho%20Agronica%20Pvt%20Ltd%2C%20the,to%20Land%2D%20an%20ecofriendly%20approach.>

6. PROMINENT RESEARCH PUBLICATIONS ADDRESSING SDG 2

In the onward research journey at MRIIRS, efforts have been undertaken to not only seed the culture of research but also to achieve substantial momentum by achieving more than 2588 research publications in Scopus and Web of Science apart from several in PubMed, UGC care.

A-Dietary Pattern of School-Going Children during COVID-19 Pandemic

DOI - <https://doi.org/10.6000/1929-4247.2022.11.04.5>

Background: School age is the foundation of human life. A healthy and balanced diet plays a major role in the proper growth development of the body as well as the mind. Only a balanced diet can provide all the macro and micronutrients. Covid 19 has impacted each and every human being in some or another manner. School-going children had to cope with new encounters involving online teaching-learning methodology and social distancing. As a result, these children have undergone mental and psychological trauma. This led them to follow faulty dietary habits, which would have long time impact on their health.

Aim and Objectives: In the present survey, an attempt has been made to compile a report on the dietary intake of school-going children in the Roopnagar district of Punjab, India.

B. Formulation of Beetroot Juice and Coconut Water Fluid-Based Gel for Enhanced Sports Performance

This study aims to focus on formulation of gel for athletes to enhance their performance during the workout and their hydration status. There are various studies shows effects of fluid-based gel may be considered as a good nutritional strategy to improve performance, strength of cyclist, runners, and swimmer's athletes. Some other study also shows that chia seed can be used for formulation of energy gel. The fluid-based gel formulation with beetroot juice, coconut water which are plant-based ingredient. Beetroot juice is a good source of nitric oxide. Nitric oxide is an intracellular and extracellular messenger for regulating certain cellular functions and causes vasodilation of blood vessels and increases blood flow. Coconut water is high in potassium, sodium, and magnesium, making it an excellent hydration alternative. Coconut water also contains less sodium than sports drinks, which is critical for replenishing after sweaty workout sessions. While endurance athletes should probably reach for something else, coconut water is proven to be a great option for lighter and heavy workouts. The fluid-based gel was prepared using beetroot juice 30%, coconut water 30%, sugar 20%. It is a formulation that can be consumed before, during and after training.

C. Insights into the functional characterization of DIR proteins through genome-wide in silico and evolutionary studies: a systematic review.

[DOI- 10.1007/s10142-023-01095-z](https://doi.org/10.1007/s10142-023-01095-z)

Dirigent proteins (DIRs) are a new class of proteins that were identified during the 8-8' lignan biosynthetic pathway and involves the formation of (+) or (-)-pinoresinol through stereoselective coupling from E-coniferyl alcohol. These proteins are known to play a vital role in the development and stress response in plants. Various studies have reported the functional and structural characterization of dirigent gene family in different plants using in silico approaches. Here, we have summarized the importance of dirigent proteins in plants and their role in plant stress tolerance by analyzing the genome-wide analysis including gene structure, mapping of chromosomes, phylogenetic evolution, conserved motifs, gene structure, and gene duplications in important plants. Overall, this review would help to compare and clarify the molecular and evolutionary characteristics of dirigent gene family in different plants.

D. Intrinsic disordered nature and prediction of the secondary structure in wheat dehydrins

[DOI - 10.25303/1805rjbt08013](https://doi.org/10.25303/1805rjbt08013)

Dehydrins are well known stress responsive proteins in plants. However, the analysis of dehydrin gene family correlating the intrinsic disordered nature with their secondary structure is lacking in wheat. The wheat genome sequence from IWGSC was used to identify 48 dehydrin genes which encode for 48 dehydrin proteins. The identified dehydrin proteins had molecular weights ranging from 9.65 kDa to 101.60 kDa. The identified proteins were named as TaDHN where Ta indicates *Triticum aestivum* while DHN indicated dehydrin and this was followed by predicted molecular weight and the chromosome number. PONDR database was used to predict intrinsic disordered nature in these proteins and the results revealed that all the proteins are highly disordered. Among the identified proteins, TaDHN14-6-5A showed maximum disordered nature (88.81%) whereas TaDHN28-1-6D was found to be the least disordered protein (57.25 %). The secondary structure prediction using GOR database revealed the presence of random coils, helix, sheets and turns in all the proteins. Based upon these findings, it can be asserted that this will help in genome wide analysis of dehydrins along with the functional analysis and structure modelling,

7. REGULAR SKILL SET ENHANCEMENT AT MRIIRS- CERTIFICATIONS EARNED BY STUDENTS AND FACULTY MEMBERS

Skill set development and enhancement are the important component of institutional development. The university is committed to conduct, through its competent constituent bodies, programs for the faculty and students for continuous skill set enhancement relevant to the recent technologies. Further, the faculty members and students are also encouraged to participate in Seminars/ Conferences/ Workshops/ Training Programs/ Short Term courses etc. within or outside the University. Sample certifications earned by faculty members and students in the relevant areas of SDG2 are as appended below:





Certificate No: ICT-7307/22

**National Institute of
Technical Teachers Training and Research
Chandigarh**

MINISTRY OF EDUCATION, GOVERNMENT OF INDIA

Certificate

This is to certify that

MANU SOLANKI

**MRIIRS, FARIDABAD
HARYANA**

Participated in the AICTE Recognized Faculty Development Programme

on

Organic Farming and Organic Food Marketing

Conducted by

Education and Educational Management Department

from

25/07/2022 to 29/07/2022 (One Week)

at

**Department of Biotechnology, Faculty of Engineering and Technology,
MRIIRS, Faridabad**




Coordinator


Director



Organic Farming and organic food Marketing



Management Development Programme for women Officer in Agriculture and Allied Sectors



Manav Rachna International Institute of Research and Studies (Deemed to be University under section 3 of the UGC Act,1956)

Manav Rachna Campus Rd, Gadakhor Basti Village, Sector 43, Faridabad, Haryana 12100