Shri Ram College
Approved by UGC, NCTE and Affiliated to MS University, Saharanpur
Muzaffarnagar - 251001, NCR (U.P.)
A++ Grade Accredited by NAAC

Date: 03 -01-2025

To,

Dr. Mahesh Kumar
Professor,
Department of Microbiology
JV College, Baraut

Respected Sir,

We are pleased to inform you that we are planning to organize a guest lecture titled "Sustainable Organic Farming Practices and their Environmental Impact" in the Auditorium of SRC on January 17, 2025, at 10:00 AM. As per our telephonic discussion, we appreciate your time to deliver the above lecture.

With regards,

Dr. Vipin Kumar Saini
Head
Department of Bioscience

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Muzaffarnagar

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IQAC, Shri Ram College,
Muzaffarnagar

Contact @ 9927028908, 99270114
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Shri Ram College Muzaffarnagar
Department of Bioscience

Date: 10-01-2025

NOTICE

A guest lecture will be delivered by Dr. Mahesh Kumar, Professor, Department of Microbiology, JV College, Baraut, on the topic "Sustainable Organic Farming Practices and their Environmental Impact" in the Auditorium of SRC on 17 January 2025 at 10:00 AM. It is requested that you arrive on time to ensure the success of this program.

Dr. Vipin Kumar Saini
Head
Department of Bioscience

Copy to: For Kind Information and Necessary Action

1- *Dr. Prerna Mittal (Principal, Shri Ram College)*
2- *Dr. Ashok Kumar (Director, Shri Ram College)*
3- *Dr. Saurabh Mittal (Vice Principal, Shri Ram College)*
4- *Dr. Vinit Kr. Sharma (Dean, Academics, Shri Ram College)*
5- *Dr. Parmod Kumar (HoD, Physical Education)*
6- *Dr. Manoj Dhiman (Dean, Fine Arts)*
7- *Dr. Ashfaq Ali (HoD, Commerce)*
8- *Dr. Shweta Rathi (Dean, Home Science)*
9- *Dr. Pooja Tomar (HoD, Basic Science)*
10- *Dr. Vipin Kumar Saini (HoD, Bioscieces)*
11- *Dr. Ravi Gautam (HoD, JMC)*
12- *Dr. Vivek Kumar Tyagi (HoD, Business Administration)*
13- *Dr. Nayeem Ali (HoD, Agriculture)*

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Date: 17.01.2025

To whom it may concern

This is to certify that Dr. Mahesh Kumar, Professor, JV College, Baraut has delivered a guest lecture on the topic "Sustainable Organic Farming Practices and their Environmental Impact" in the Auditorium of SRC for U.G. & P.G. students at 10:00 AM on 17.01.2025. His lecture was very effective and has enlightened our students and faculty members.

Dr. Vipin Kumar Saini
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Sustainable Organic Farming Practices and their Environmental Impact

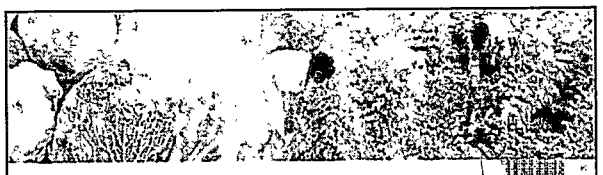
By

Dr. Mahesh Kumar

What is Sustainable Organic Farming?

- A holistic system that promotes ecological balance, conserves biodiversity, and avoids synthetic inputs (pesticides, fertilizers, GMOs).
- Produce healthy food while protecting natural resources and ensuring economic viability for farmers.
- Focus on long-term ecological health vs. Short-term yield maximization.





Core Practices of Sustainable Organic Farming

- Soil Health Management:
  - Composting and Manure Application
  - Cover Cropping
  - No-Till/Reduced Tillage
  - Crop Rotation
- Pest and Disease Management:
  - Biological Control
  - Crop Diversity
  - Resistant Varieties
- Water Conservation:
  - Efficient Irrigation (Drip, Sprinkler).
  - Rainwater Harvesting.
  - Improved Soil Water Retention (due to organic matter).

Environmental Impact: Soil Health and Biodiversity

Improved Soil Health:

Increased Organic Matter: Enhances water retention, nutrient cycling, and carbon sequestration.

Reduced Soil Erosion: Cover crops and no-till practices protect topsoil.

Enhanced Soil Fertility: Natural nutrient cycling reduces reliance on synthetic fertilizers.

Biodiversity Conservation:

Support for Beneficial Insects: Reduced pesticide use encourages pollinators and pest predators.

Healthier Microbial Life: Diverse soil microorganisms improve nutrient availability.

Habitat Creation: Hedgerows, buffer zones, and diverse cropping systems provide refuge for wildlife.

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Environmental Impact: Water and Air Quality

- **Water quality:**
  reduced nutrient runoff: no synthetic fertilizers mean less nitrogen and phosphorus leaching into waterways.
  Minimized pesticide contamination: absence of synthetic pesticides protects groundwater and surface water.
  Improved water infiltration: healthy soil structure allows better water absorption, reducing runoff.
- **Air quality:**
  reduced greenhouse gas emissions: lower energy input for fertilizer production, less nitrous oxide from synthetic nitrogen.
  Carbon sequestration: increased soil organic carbon acts as a carbon sink.
  Reduced chemical drift: no synthetic sprays mean less airborne chemical particles.

Environmental Impact: Energy Use and Climate Change Mitigation

Lower Energy Consumption:

Reduced reliance on energy-intensive synthetic fertilizers and pesticides.

Less fuel used for tillage.

On-farm composting reduces transportation energy.

Climate Change Mitigation:

Enhanced Carbon Sequestration: Healthy soils store more carbon.

Reduced Emissions: Lower production and application of synthetic inputs.

Increased Resilience: Diverse and healthy ecosystems are more resilient to climate impacts.

Challenges and Criticisms

- Labor Intensity: Some Organic Practices Can Be More Labor-intensive.
- Cost: Organic Products Can Be More Expensive Due To Higher Production Costs And Certification.
- Scalability: Challenges In Scaling Up Organic Practices To Meet Global Food Demand.
- Nutrient Management: Ensuring Adequate Nutrient Supply Without Synthetic Inputs Can Be Complex.
- Yield Gap: Potential For Lower Yields Compared To Conventional Farming In Some Contexts (Though Narrowing With Research).

Policy and Future Outlook

GOVERNMENT POLICIES: SUBSIDIES, RESEARCH FUNDING, AND CERTIFICATION STANDARDS. CONSUMER DEMAND: GROWING CONSUMER AWARENESS AND DEMAND FOR ORGANIC PRODUCTS. TECHNOLOGICAL ADVANCEMENTS: PRECISION AGRICULTURE, BIOLOGICAL PEST CONTROL, AND IMPROVED ORGANIC INPUTS. INTEGRATED APPROACHES: COMBINING ORGANIC PRINCIPLES WITH OTHER SUSTAINABLE PRACTICES (E.G., AGROECOLOGY, REGENERATIVE AGRICULTURE). ROLE IN GLOBAL FOOD SECURITY: BALANCING ENVIRONMENTAL BENEFITS WITH FOOD PRODUCTION NEEDS.

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Conclusion

- Sustainable organic farming practices offer significant environmental benefits, including improved soil health, enhanced biodiversity, and protection of water and air quality.
- They play a crucial role in mitigating climate change and fostering resilient agricultural systems.
- While challenges exist, ongoing innovation, supportive policies, and increasing consumer demand are driving its growth.
  Embracing these practices is vital for the long-term health of our planet and food systems.

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SHRI RAM COLLEGE, MUZAFFARNAGAR
DEPARTMENT OF BIOSCIENCE
GUEST LECTURE ON SUSTAINABLE ORGANIC FARMING PRACTICES AND THEIR ENVIRONMENTAL IMPACT
LIST OF PARTICIPANTS

2024-25 **Date-17-01-2025**

S.No.	STUDENTS	CLASS	SIGNATURE
1	SANDHYA	B.Sc. Biotechnology 2nd Year	Sandhya
2	SHALINI SHARMA	B.Sc. Biotechnology 3rd Year	Shalini
3	SHIVANI DEVI	B.Sc. Biotechnology 3rd Year	Shivani
4	SIDRA	B.Sc. Biotechnology 3rd Year	Sidra
5	SIMRAN	B.Sc. Biotechnology 3rd Year	Simran
6	STUTI KUMARI	B.Sc. Biotechnology 2nd Year	Stuti
7	SUJAL SANGAM	B.Sc. Biotechnology 2nd Year	Sujal
8	TALBIYA HUSAIN	B.Sc. Biotechnology 1st Year	Talbiya.
9	TANU	B.Sc. Biotechnology 3rd Year	Tanu
10	TANU VERMA	B.Sc. Biotechnology 1st Year	Tanu
11	TANYA SINGH	B.Sc. Biotechnology 3rd Year	Tanyasingh
12	TARNEEM FATMA	B.Sc. Biotechnology 2nd Year	Tarneem
13	TOHID ALI	B.Sc. Biotechnology 1st Year	Tohidali.
14	TUSHAR KUMAR	B.Sc. Biotechnology 3rd Year	Tushar
15	TUSHAR PAL	B.Sc. Biotechnology 3rd Year	TusharPal.
16	UJJWAL KORI	B.Sc. Biotechnology 3rd Year	Ujjwal
17	UZMA	M.Sc. Biotechnology 2nd Year	Uzma
18	VANSH	B.Sc. Biotechnology 3rd Year	Vansh
19	VIKASH KUMAR	B.Sc. Biotechnology 3rd Year	Vikash Kumar.
20	VINAY KUMAR	B.Sc. Biotechnology 3rd Year	Vinay
21	VISHAKHA PUNDIR	M.Sc. Biotechnology 2nd Year	Vishakha

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23	ZAINAB SHAHALAM	M.Sc. Biotechnology 2nd Year	Zainab
24	ZURIYAT ZEHRA	B.Sc. Biotechnology 2nd Year	Zuriyat
25	ANJALI	B.Sc. Microbiology 1st Year	Anjali
26	ANJALI DANGAR	B.Sc. Microbiology 1st Year	Anjali
27	ANJALI TOMAR	M.Sc. Biotechnology I Year	,, Anjali Tomar
28	ANSHIKA SEN	M.Sc. Microbiology 1st Year	Anshika SEN
29	ANSHU	B.Sc. Microbiology 3rd Year	Anshu
30	ANTIM	M.Sc. Microbiology 2nd Year	ANTIM
31	ANU	B.Sc. Microbiology 1st Year	Anu
32	ANUJ	B.Sc. Microbiology 3rd Year	Anuj
33	ANUJ KUMAR	M.Sc. Microbiology 2nd Year	Anuj
34	ANUP KUMAR	B.Sc. Microbiology 1st Year	ANUP
35	ANURAG SHARMA	B.Sc. Microbiology 3rd Year	Anurag
36	ANUSHKA	B.Sc. Biotechnology 3rd Year	Anushka
37	APARAJEETA ARYA	B.Sc. Biotechnology 3rd Year	APARAJEETA
38	ARANSHA ANJUM	B.Sc. Microbiology 2nd Year	Aranasha
39	ARASALAN	B.Sc. Microbiology 1st Year	Arsalan
40	AREEBA USMANI	B.Sc. Microbiology 2nd Year	Areeba
41	ARPAN SINGH	M.Sc. Microbiology 1st Year	Arpan Singh
42	ARSHI CHOUDHARY	M.Sc. Biotechnology 2nd Year	Arshi
43	ARYA SHARMA	B.Sc. Microbiology 2nd Year	Arya Sharma
44	ARYAN TOMAR	B.Sc. Microbiology 3rd Year	Aryan
45	ARYAN TYAGI	M.Sc. Microbiology 2nd Year	Aryan Tyagi
46	ASBA	M.Sc. Microbiology 1st Year	Asba
47	ASTHA	B.Sc. Microbiology 1st Year	Astha
48	ATIKA	B.Sc. Microbiology 3rd Year	Atika

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50	AVNI SHARMA	M.Sc. Microbiology 2nd Year	Avni
51	AYESHA	M.Sc. Biotechnology 1st Year	Ayesha
52	AYUSHI DHIMAN	B.Sc. Microbiology 2nd Year -	Ayushi
53	BHAWANA	M.Sc. Microbiology 1st Year	Bhawana
54	CHHAVI SINGHAL	B.Sc. Biotechnology 3rd Year	Chhavi
55	CHIRAG	B.Sc. Microbiology 2nd Year	Chirag
56	DHEERAJ	B.Sc. Microbiology 2nd Year	Dheeraj
57	DIKSHA TYAGI	M.Sc. Microbiology 1st Year	Diksha
58	DIPANSHU	M.Sc. Microbiology 1st Year	Dipanshu
59	DISHA DIXIT	B.Sc. Microbiology 3rd Year	Disha
60	DIVAM	B.Sc. Biotechnology 3rd Year	Divam
61	FARHEEN BANO	B.Sc. Microbiology 1st Year	FARHEEN
62	GARIMA	B.Sc. Microbiology 1st Year	Garima
63	GARIMA KUMARI	B.Sc. Microbiology 2nd Year	Garima
64	GAUTAM KUMAR	M.Sc. Biotechnology 2nd Year	Gautam
65	GHANSHYAM SHARMA	B.Sc. Microbiology 1st Year	Ghanshya
66	HIMANSHU	M.Sc. Biotechnology 1st Year	Himanshu
67	HRITIKA CHOUDHARY	M.Sc. Biotechnology 1st Year	HRITIK
68	IQRA	B.Sc. Microbiology 1st Year	Iqra
69	IQRA PARVEEN	M.Sc. Biotechnology 2nd Year	Iqra
70	IRAM PARVEEN	B.Sc. Microbiology 1st Year	Iram
71	ISHA	M.Sc. Biotechnology 2nd Year	Isha
72	ISKANT	B.Sc. Microbiology 1st Year	Iskant
73	JOYAPARVEEN	M.Sc. Microbioligy 1st Year	Joya Parveen
74	JYOTI GAUTAM	M.Sc. Microbiology 1st Year	JOYTI GAUTAM
75	KAIF ANWAR	B.Sc. Microbiology 1st Year	Kaif

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77	KANAK SHARMA	B.Sc. Microbiology 2nd Year	Kanak Sharma
78	KANIKA RANI	M.Sc. Microbiology 1st Year	Kanika
79	KANIKA TYAGI	M.Sc. Biotechnology 1st Year	Kanika
80	KANU PRIYA	B.Sc. Biotechnology 3rd Year	Kanu Priya
81	KARAN	B.Sc. Microbiology 2nd Year	Karan
82	KHUSHI	B.Sc. Microbiology 2nd Year	Khushi
83	KHUSHI TYAGI	M.Sc. Microbiology 1st Year	Khushi Tyagi
84	KIRTI TYAGI	M.Sc. Biotechnology 2nd Year	Kirti
85	KM ALKA	M.Sc. Biotechnology 2nd Year	Alka
86	KM TANU	M.Sc. Biotechnology 2nd Year	Tanu
87	KM. MUSKAN	M.Sc. Biotechnology 2nd Year	Muskan
88	KRISH VEER	B.Sc. Microbiology 1st Year	Krish veer.
89	LALIT	B.Sc. Biotechnology 1st Year	Lalit
90	MAHAK PUNDIR	B.Sc. Biotechnology 2nd Year	Mahak
91	MAHITYAGI	M.Sc. Biotechnology 2nd Year	mahityagi
92	MANSI RANI	B.Sc. Biotechnology 2nd Year	Mansi
93	MANSI SHARMA	M.Sc. Microbiology 1st Year	Mansi
94	MANTASHA PARVEEN	M.Sc. Biotechnology 1st Year	Mantasha
95	MOHAMMAD ANAS	B.Sc. Microbiology 2nd Year	Anas
96	MOHAMMAD HABIBULLAH	B.Sc. Biotechnology 2nd Year	Habibullah
97	MOHD BASHARAT	B.Sc. Microbiology 2nd Year	Basarat
98	MOHD ANAS	B.Sc. Biotechnology 2nd Year	Anas
99	MOHD DANISH CHAUDHARY	M.Sc. Biotechnology 2nd Year	Danish
100	MOHD KADIR	B.Sc. Microbiology 2nd Year	Kadir
101	MOHD SAHIB	M.Sc. Biotechnology 2nd Year	Mohd Sahib
102	MOHD SALMAN	B.Sc. Biotechnology 2nd Year	Salman

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105	NAMRA PARVEEN	B.Sc. Biotechnology 2nd Year	Namra
106	NANDANI TYAGI	M.Sc. Microbiology 1st Year	Nandini
107	NARGIS SHAHZAD	M.Sc. Microbiology 1st Year	Nargis
108	NAZISH	M.Sc. Microbiology 1st Year	Nazish
109	NAZIYA	B.Sc. Biotechnology 1st Year	NAZIYA
110	NIKITA	B.Sc. Biotechnology 3rd	Nikita
111	NIRDESH KUMAR	B.Sc. Biotechnology 1st Year	Nirdesh
112	NISHA IRFAN	B.Sc. Biotechnology 2nd Year	Nisha Irfan
113	NITISH PAL	B.Sc. Biotechnology 1st Year	Nitish pal
114	PAYAL RAJPUT	B.Sc. Biotechnology 2nd Year	Payal
115	PRANSHU MALIK	B.Sc. Biotechnology 1st Year	Pryanshu
116	PRINCE SHARMA	B.Sc. Biotechnology 1st Year	Prince
117	PRIYA KUMARI	B.Sc. Biotechnology 1st Year	Priya
118	PRIYANKA	B.Sc. Microbiology 2nd Year	Priyanka
119	PRIYANSHU RANA	B.Sc. Biotechnology 3rd Year	Priyanshu
120	PUJA KUAMRI	B.Sc. Biotechnology 2nd Year	Puja
121	PUJA KUMARI TUDU	B.Sc. Biotechnology 2nd Year	Puja
122	RAKHI	B.Sc. Biotechnology 3rd Year	Rakhi
123	RAZIYA ABDUR RAUF	B.Sc. Microbiology 3rd Year	Raziya
124	RISHABH SINGH	B.Sc. Microbiology 2nd Year	Rishabh Singh
125	RIYA	B.Sc. Biotechnology 3rd Year	Riya
126	ROHIT KUMAR	B.Sc. Microbiology 2nd Year	Rohit Singh
127	RONAK SINGH	B.Sc. Biotechnology 3rd Year	Ronak Singh
128	RUDHRAKSH	B.Sc. Microbiology 3rd Year	Rudhraksh
129	SAJALCHAUHAN	B.Sc. Microbiology 2nd Year	Sajal

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