



Sustainable Development Goal 15

Life on Land

SUSTAINABLE DEVELOPMENT GOAL



15

Life on Land

Sustainable Development Goal 15 focuses on "Life on Land" and aims to protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and biodiversity loss.

15.4.1: Water Discharge Guidelines and Standard Year: in Place by 2022:

https://ezone.sharda.ac.in/ezone-2022/attachments/naaccriterias_pdf-2024-2025/criteria_2.9.2/1729509105_671636f1c0593.pdf

15.4.2: Policy on plastic waste reduction, Year: in place by 2022: https://ezone.sharda.ac.in/ezone-2022/attachments/naaccriterias_pdf-2024-2025/criteria_2.9.2/1729509105_671636f1c0593.pdf

15.4.3: Policy on hazardous waste disposal, Year in place by 2022: https://ezone.sharda.ac.in/ezone-2022/attachments/naaccriterias_pdf-2024-2025/criteria_2.9.2/1729509105_671636f1c0593.pdf

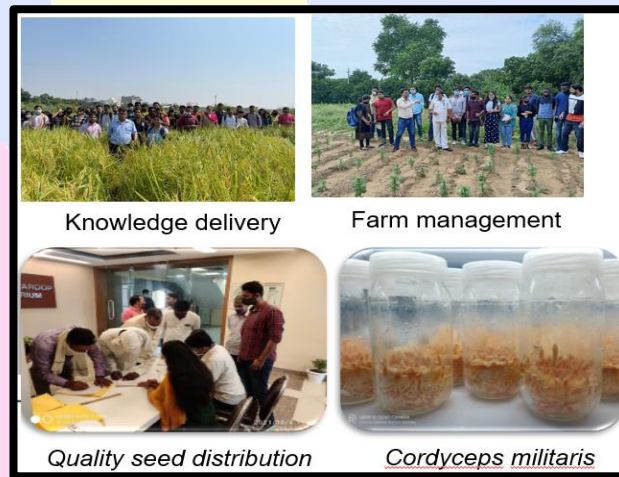
Metrics and Indicators

15.1 Research on land ecosystems

15.1.1 Life on Land: Cite Score

15.1.2 Life on land: FWCI: Number of citations

- Publications of book chapters and research articles



15.1.3 Life on Land: Publications: Life on land including land Ecosystems, biodiversity and Land sensitive waste disposal

The efforts are being taken in the areas of Agriwaste Management as well as other related Green Technologies.

The details are given as under:

Reuse and Recycle

- Utilization of bio-degradable Agri-residues for Mushroom cultivation and Vermi-composting
- Reuse of non-biodegradable items (plastic tubes) for farming practices

Other Best Practices

- Water conservation and its utilization by sprinkler irrigation system and rain gun, utilization of harvested rain water for vegetables
- Use of microbial bio-inoculants (Biofertilizers) like Blue Green Algae, *Rhizobium* and *Azotobacter* etc. for nitrogen saving and improved soil health during crop cultivation



Event: Situation Assessment Survey of Selected Greater Noida Society for Kitchen Waste Management

Location: Greenwoods Society, Phase 2, Sector Omega -1, Greater Noida

Date of Event: 14.2. 2023

Number of participants: 06

Program Objective

To assess the amount of Kitchen Waste generation and its disposal options in an urban society of Greater Noida

Program Description

Sharda School of Agricultural Sciences organized a survey visit for the Situation Assessment of Kitchen Waste Management in a residential society of Greater Noida. During this survey visit, the team of 3 faculty members from SSAS interviewed the visited Greenwoods Society in Greater Noida to witness the waste management facilities in the society. Society members and officials of the society's Resident Welfare Association were interviewed to understand the various practices adopted in society for managing their kitchen waste, in which the standards and norms related to waste disposal were discussed. The faculty team also suggested feasible alternatives for the management of kitchen wastes and their conversion into compost for the residents of the society.

It was found out from the discussion that the residents of society diligently segregated their kitchen daily into wet and dry waste. The society has hired 7-8 waste workers who collect this segregated garbage. These workers then dump the wet waste into two beds, slowly decomposing and mixing with the soil. The soil on the lower layers of these beds is then put into tanks and mixed with a decomposer chemical to turn the waste into fine manure. This manure is then used in gardens within the society. This whole process of kitchen waste management is done by society with the help of a local startup company that applies the decomposer chemicals and regularly monitors the manuring process.

The team of faculty suggested to the society officials to spread awareness about the process and importance of kitchen waste management through posters, folders and other interactive mediums. This will help in increasing the participation of society members and improve the quality of waste segregation.

Web link:

<http://shardaevents.com/event/situation-assessment-survey-of-selected-greater-noida-societies-for-kitchen-waste-managementsharda-school-of-agricultural-sciences14th-february-2023>

Convener: Prof. Dolly Wattal Dhar, Contact: 9868047781, dolly.wattal @sharda.ac.in

Coordinators

Dr. Palak Mishra, Contact: 6265543566

Dr. Swati Hazra, Contact: 8918420059

Dr. Pradip Tripura, Contact: 7734969150



15.2: Supporting land ecosystems through education

Inclusive Curriculum

SDG 15 addresses the interconnected challenges related to land, biodiversity, and ecosystems and emphasizes the need for collective action to preserve the planet's natural resources for future generations. In view of this, attempts have been made to address the challenges mentioned under SDG 15 through courses related to the concept of nature, land, biodiversity, ecosystems and their preservations at **Sharda School of Agricultural Sciences, Sharda University**.

Highlights about the School

- Highly accomplished faculty
- Students from all parts of India and foreign countries
- Well-equipped laboratories
- Students' Experiential Learning and Innovation Centre

Hydroponics and Plant Tissue Culture lab, Automated Polyhouses, Mushroom Centre, Crop Cafeteria, Bio- fertilizer Unit, Vermi-Compost Unit

- Instructional Research Farm and Seed Production
Cultivation practices, production, processing, grading, packaging and marketing of farm produce
- On-campus placements and higher education
- Interdisciplinary research collaborations

The detailed course contents are structures based upon

- Fifth Dean's Committee Report- Education Department, Indian Council of Agricultural Research (ICAR), Govt. of India. (National level)
- District Agriculture Plan given for Gautam Budh Nagar (Local needs)
- Sustainable Developmental Goals (Food safety and security 2.4.1) (Global thrust)

School offers Research Based Learning (RBL) Courses for UG and PG Programmes as under

B.Sc. (Hons.), Agriculture

- Practical Crop Production – I (Kharif crops) Lab; AGP 512 (2 Credits); V Semester
- Project Work/ Dissertation; AGP 609 (2 Credits); VI Semester
- Project Report Preparation, Presentation and Evaluation; AGP 703(2 Credits); VII Semester
- Dissertation-III, AGP 803 (2 Credits); VIII Semester

M.Sc. (Agriculture), Agronomy

Term Paper-I; MPA 508; 2 Credits

Term Paper-II; MPA 607; 2 Credits

Research Project-I; MPA 703; 10 Credits

Research Project-II; MPA 801; 20 Credits

MOOC/NPTEL Course “Organic Farming for Sustainable Agricultural Production” (ONS700), offered for B.Sc. (Hons.) Agriculture, Sem-7 students. 39 students registered in Term-2301

Event: Outreach Programme: Visit to Krishi Vigyan Kendra (KVK), Shikohpur, Gurgaon

Date of Event: October 17. 10.2022

Number of participants: 57

Program Objectives

- To instill practical knowledge about various agricultural activities in the students and to encourage them for self-employment through development of entrepreneurial skills.

Program Description

Sharda School of Agricultural Sciences has organized an exposure visit to KVK, Shikohpur-Gurgaon. Students observed the research facilities and agricultural activities being carried out at Krishi Vigyan Kendra. Some of the main facilities that the students witnessed were related to Soil testing lab, Beekeeping demonstration unit, Vermi-compost unit, Dairy unit, Value addition unit, Bio-control lab, Low-cost mushroom production unit, Poly/Shed Net house, Bio-gas plant, and Information Technology unit.

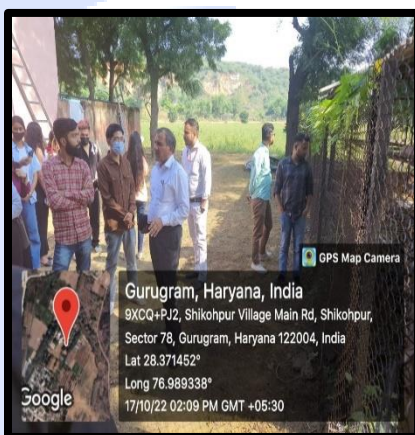
Number of Participants: 57

Weblink:

<http://shardaevents.com/event/sharda-school-of-agricultural-sciencesoutreach-programme-visit-to-krishi-vigyan-kendra-kvk-shikohpur-gurgaon17th-october-2022>

Convener: Prof. Dolly Wattal Dhar, Contact: 9868047781, dolly.wattal @sharda.ac.in

Coordinator: Dr. Palak Mishra, Contact: 6265543566



Event: Felicitation of Dr. William Dar, Former Minister of Agriculture and Ex Director, ICRISAT and Special Lecture

Date of Event: 11.11.22

Program Objectives:

- To felicitate Dr. William Dar, Former Minister of Agriculture and Ex-director, ICRISAT on being conferred with **First MS Swaminathan Global Award for Sustainable Development**.
- To organize special lecture on Enhancing Science and Innovation to Feed the World

Title: Climate Crisis, Covid-19 Pandemic and Conflict in Ukraine with relation to Food Security

Programme description:

Sharda University felicitated **Dr. William Dar**, Former Minister of Agriculture and Ex-director, ICRISAT on being conferred with **First MS Swaminathan Global Award for Sustainable Development**. A lecture was organized by Sharda school of Agricultural Sciences at Anand Swaroop Auditorium from 11:30 AM Onwards. **Dr. William Dar** achieved outstanding impact in agricultural research for development and guiding crucial periods of renewal in major national, regional and international institutions.

Convenors:

- Dr. Parmanand, Dean of Academic Affairs
- Dr. Dolly Wattal Dhar, Dean, SSAS

Co-Convenor: Dr. HS Gaur, Professor Emeritus, SSAS

Coordinators:

- Dr. Uzma Manzoor, Assistant Professor, SSAS, 9873973749
- Dr. Ashutosh Pandey, Assistant Professor, SSAS, 9839177120

Number of participants: 60-80

Web link:

<https://www.sharda.ac.in/connect/news-details/felicitation-of-dr-william-dar-former-minister-of-agriculture-and-ex-director-icrisat-and-special-lecture-on-11th-november-2022>

Arrival, Presentation and Felicitation of Prof. William Dar, Student's interaction



Tree sapling plantation (Sustainable Utilization of land)



Event : Boot Camp Workshop to sensitize students for “ Entrepreneurship in Agriculture & Allied Sectors”

Name of the event organizing School : Sharda School of Agricultural Sciences (SSAS) and Sharda School of Engineering and Technology (SSET) in collaboration with Institution Innovation Council (IIC)

Sponsor of the Event : PUSA KRISHI, ICAR-IARI, India

Advisor: Manisha Mani, Innovation Lead; PUSA KRISHI, ICAR-IARI, India

Conveners: Dolly Wattal Dhar (Dean, SSAS)
Dr. Saleem Siddiqui

Coordinators: Dr. Pallavi Gupta
Dr. Astha Gupta

Name of speaker with contact details: Manisha Mani, Innovation Lead
PUSA KRISHI, ICAR-IARI, India

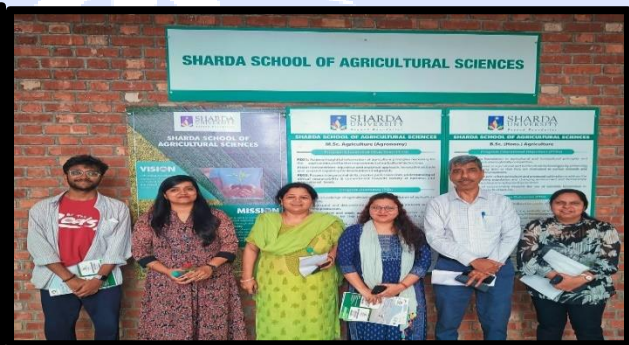
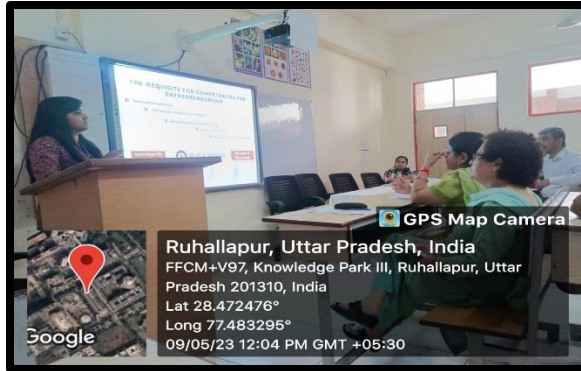
Program Objective: To provide basic and applied training and sensitization for entrepreneurship and employability

Program Description: In this workshop, attempts will be made to sensitize students and the faculty who are interested in initiating entrepreneurship in any Agriculture & Allied Sectors about the two funding-cum-empowering schemes of MoA&FW, GoI run through PUSA Krishi. Workshop will enhance the thinking skills of students and the faculty for entrepreneurship and employability.

No. of Participants: 59

Weblink

<http://shardaevents.com/event/boot-camp-workshop-to-sensitize-students-for-entrepreneurship-in-agriculture-allied-sectors-9th-may-2023ssas/>



Any other information: (Winners of the competition)

5/11/23, 3:08 PM Sharda University Mail - Winners of the Student Business Idea Competition during the PUSA Krishi Boot Camp at Sharda University...



Saleem Siddiqui (SBSR Professor) <saleem.siddiqui@sharda.ac.in>

Winners of the Student Business Idea Competition during the PUSA Krishi Boot Camp at Sharda University on 9th May 2023

Manisha Mani <innovation.manager@pusakrishi.in> Wed, May 10, 2023 at 4:25 PM
 To: "Saleem Siddiqui (SBSR Professor)" <saleem.siddiqui@sharda.ac.in>
 Cc: vivek.gupta@sharda.ac.in, "dolly.wattal@sharda.ac.in" <dolly.wattal@sharda.ac.in>, "amit.sehgal@sharda.ac.in" <amit.sehgal@sharda.ac.in>, mani.shields@gmail.com

Dear Sir,

It was indeed a great day, well spent at Sharda's campus and we feel delighted & are so thankful for your gracious hospitality & welcome, that too on such a short notice.

Special thanks to Dean Mam for such a warm welcome, grateful to Registrar Sir for sparing time to meet us and are indebted to you for the whole hearted cooperation for the conduct of the event, this all made it a successful event.

We are grateful for the support and enthusiasm of the Sharda University and look forward to continuing our future collaborative events with your team, as both of our teams are committed to empowering young entrepreneurs and supporting them in their journey towards success. Even got a chance to visit your startup Launchpad and met Dr. Amit to discuss any prospective lines of collaboration.

We had an amazing time conducting the bootcamp and would like to share the names of the winners for yesterday's bootcamp:

1. First- Sadhna
2. Second- Rudraksh and Aman
3. Third- Kabrel

Please announce the same & share the news with the winners and present them the prizes (goodies) we left with you, yesterday. Also, please do share pictures while presenting them with the prizes and share any pictures taken from yesterday's boot camp as well.

Kindly encourage the students to apply for the pre-seed funding grant (upto 5 lakhs INR) at **ARISE – Pusa Krishi** and for the seed stage funding grant (upto 25 lakhs INR) at **UPJA – Pusa Krishi** as the last date is approaching (14th May 2023).

For more details, please visit pusakrishi.in

Do reach out to us, if any student, needs any clarity for the application process.

Warm Regards,

Manisha Mani

15.2.1 Sustainable use of land

Year: 2022-2023

The Courses taught under **Environment and Sustainability** concept are as under

B. Sc. (Hons.), Agriculture

- ✓ Introductory Agro-meteorology
- ✓ Renewable Energy and Green Technology
- ✓ Disaster Management
- ✓ Agro-meteorology and Crop Ecology

Event: Lecture on Innovations in Adaptations to Climate change in Dry land Agriculture

Convener: Dr. Dolly Wattal Dhar

Coordinator: Dr. H S Gaur

Organizing Secretary: Dr. Uzma Manzoor

Date of event: 10.1.23.

Name of speaker: Prof. Kadambot Siddiqui, Hackett Professor, Chair and Director, UWA Institute of Agriculture, The University of Western Australia

Objectives of event:

To understand the implications of climate change and adaptation strategies in relation to future improvements in water use efficiency and food production in dry land ecosystems.

Event description

Sharda School of Agricultural sciences and IIC, Sharda University organized a lecture on “ Innovations in Adaptations to Climate change in Dery land Agriculture by Prof. Prof. Kadambot Siddiqui, Hackett Professor, Chair and Director, UWA Institute of Agriculture, The University of Western Australia. Dr. Uzma commenced the programme. Dr. Dolly Wattal Dhar welcomed the Guest and Dr. H S Gaur presented his remarks. The speaker laid emphasis on the fact that despite constraints, agricultural production increased during the 20th century due to improved agronomic practices, new varieties and diversification of farming systems. However, climate change threatens future production levels in the region through increased risk of prolonged drought, higher average temperatures, particularly during the critical stages of flowering and grain filling and more extreme temperatures. With high seasonal variability, it is essential that maximum grain yields are achieved in average and better seasons. The implications of climate change and adaptation strategies such as agronomic management and crop

breeding were discussed in relation to future improvements in water use efficiency and food production in dryland ecosystems. The event ended with vote of thanks by Prof. Saleem Siddiqui.

No. of participants : 47

Weblink: https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias_pdf-2022-2023:criteria_3.3.2:SCAN0001.pdf

Photographs of the event



15.2.2 Sustainably Farmed Food on Campus

Promotion of Research and Facilities at Sharda School of Agricultural Sciences

- Crop diversification for food security and sustainability
- Cultivation of cereals and vegetables in fields
- Seed production for wheat, rice and mustard
- Use of low cost technologies (polyhouse, micro-irrigation system, biofertilizers)
- Cultivation and production of *Cordyceps militaris*
- Utilization of agricultural wastes for value addition (Mushroom cultivation) and vermicomposting
- Tissue culture technology and hydroponics
- Trainings for skill enhancement and entrepreneurship



Outcome

- Delivery of knowledge and farm management
- Production and distribution of quality seeds
- Cultivation of *Cordyceps militaris*

Title of event: Awareness programme on eat millets as nutricereals and stay healthy

Date of event: 20.11.22

Key Highlights

To elevate awareness of the contribution of millets for food security, sustained nutrition and livelihood

Event description:

In view of the international Year of Millets, 2023, Sharda School of Agricultural Sciences organized an awareness programme on “ Eat Millets as Nutricereals and stay Healthy” to create an involvement and sense of participation for sustained nutrition, livelihood and wellbeing of communities in an “On-line Mode” for the forgotten golden grains. The speaker gave insights of the use and significance of millets in diet and overall export scenario in the country.

Number of participants: 58

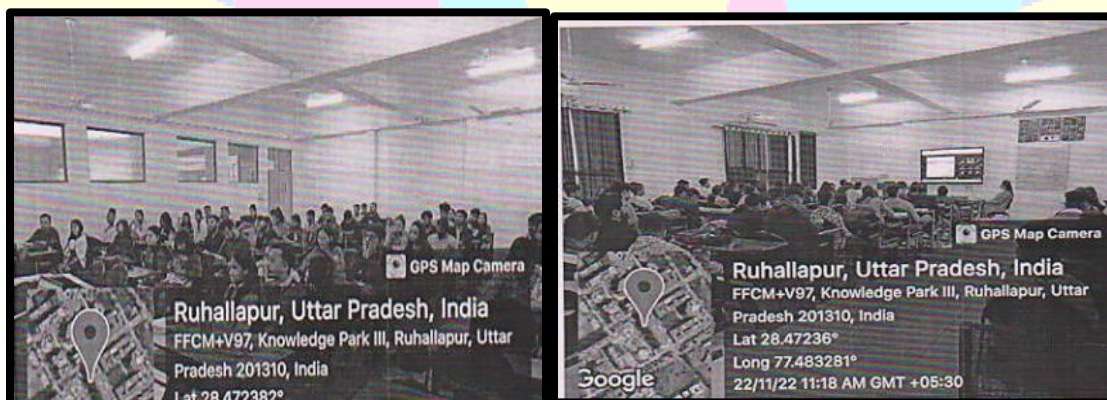
Convener: Dr. Uzma Manzoor

Organizing Secretary: Dr. Sunil jaiswal

Name of the speaker: Dr. Sangappa, IIMR, Hyderabad

Web link:

https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias_pdf-2022-2023:criteria_3.3.2:18_Awareness_programme_on_eat_millet.PDF



Agricultural Sciences Products on display for Awareness and Revenue Generation



Fish Farming in Harvested Water Storage Tank



Hands on Training and Knowledge outside classroom teaching

- Cultivation practices
- Flori-culture and landscaping
- Soil testing
- Protected cultivation

- Mushroom cultivation
- Vermi-composting
- Farm management
- Value addition



Mushroom House, High-tech Horticulture and Vermicomposting



15.2.3 Maintain and extend current ecosystems biodiversity

Integrated Farming System

Integrated Farming System (IFS) combines crops, livestock, aquaculture, and agroforestry to enhance productivity and sustainability. It can optimize resource use and promotes biodiversity. The practice can improve soil health, reduces waste, and supports nutritional security, fostering more resilient agricultural practices.

Fish- Poultry Farming under Integrated Farming System



15.2.4 Educational programmes on ecosystems

Wild flora, fauna for local and national communities

Event: Visit to Amrit Udhyan (Mughal Garden) and Buddha Jayanti Park, New Delhi

Date of Event: 22.2.2023

Program Objective

- To create knowledge amongst the agriculture students regarding the identification of ornamental plants, medicinal aromatic plants, and landscaping architect design for Career, Agri-industry prospects in agriculture and skill development.

Program Description

Sharda School of Agricultural Sciences planned a tour for Amrit Udhyan (Mughal Garden) and Buddha Jayanti Park for the identification of the ornamental plants, medicinal aromatic plants, and landscaping architect design for the students of B. Sc. (Hons.) Agricultural Sciences.

Number of participants: 30

Weblink:

<http://shardaevents.com/event/visit-to-amrit-udhyan-mughal-garden-and-buddha-jayanti-park-new-delhi-22nd-february2023-ssas/>

Convener: Prof. Dolly Wattal Dhar, Contact: 9868047781, dolly.wattal @sharda.ac.in

Coordinators:

Dr. Chandan Singh, Contact: 9109625474

Dr. Raghvendra Singh, Contact:7800936000





Amrit Udhyan (Mughal Garden) New Delhi



Buddha Jayanti Park, New Delhi

15.2.5: Sustainable management of land for agriculture and tourism (educational outreach)

Educational programmes/outreach for local or national communities on sustainable management of land for agriculture and tourism

The farmer is the only man in our economy who buys everything at retail, sells everything at wholesale, and pays the freight both ways. – **John F. Kennedy**

Cleaning of Green Belt areas and planting perennial avenue tree species under Noida Authority Area facilitates control of the environment pollution. Sharda School of Agricultural Sciences organized an event on **Environmental Cleaning under Swachh Bharat Mission** along with Horticulture Unit of the University.

15.3 Supporting land ecosystem through action

15.3.1: Sustainable use, conservation and restoration of land (Policy)

- Sustainable use of land through fruit trees, rice wheat cropping systems, vegetables and oil seed crops at Crop Cafeteria under the supervision of Dean SSAS.
- Cultivation of Dhaincha for green manuring

Sustainable Land Use under Different Crops



Terrace Farming under Sustainable Land Use



Event: World Bio Protection Summit-India 2022

Date of event: 1.12.22

Convener: Prof. H S Gaur, Emiratus Professor, SSAS

Co-convener: Dr. Dolly Wattal Dhar

Organizing Secretary: Dr. Uzma Manzoor

Names of speakers: Dr. Minhsad Ansari, Chairman WBF

Dr. H P Singh; Former DDG, ICAR

Key highlights of the event:

To connect the BioAg industry for successful commercialization

Event description

Sharda School of Agricultural Sciences , Sharda University in collaboration with The World BioProtection Forum organized the world bioProtection Summit, India, 2022 on December, 1, 2022. The summit gave an International Platform for Collaboration, Partnership and Advancement of the Industry and Academia. The summit was attended by Industry, Academia, Researchers, Investors, Regulators, Policymakers.

Government Organizations, NGOs and IPM Practitioners to discuss the pressing need to develop alternatives to chemicals for Crop Protection.

Dr. H P Singh, Former Deputy Director General (Horticulture), Indian Council of Agricultural Research was the Guest of Honour. Dr. Minshad Ansari was the chairman of the summit. Exhibitions by more than 10 International Industries was organized during the summit. 450 delegates and students attended the summit.

The main aim of the summit was to outline the urgent need to develop novel products and application technologies to not only fill gaps in the market due to pesticide removal but also to anticipate future requirements as pests and diseases are developing resistance to chemical products.

No. of participants: 176

Web link:

https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias_pdf-2022-2023:criteria_3.3.2:World_Bioprotection.PDF

Photographs of the event



15.3.2 Monitoring IUCN and other conservation species (Policies)

15.3.3: Local Biodiversity included in planning and development

15.3.4: Alien species impact reduction

15.3.5: Collaboration for shared land ecosystem

Collaboration

Land was taken from the local farmer **Sh. Baljeet Singh**. Safipur, Greater Noida on lease by Sharda School of Agricultural Sciences, SU and the experiment was set up at farmer's field .

Quality Seed Production of High Yielding Disease Resistant Wheat Varieties

- **Procurement of Breeder Seeds:** One quintal each, two wheat varieties (DBW 187 and DBW 222), developed by ICAR-IIWBR, Karnal, Haryana
- **Cultivation:** Standard agronomic practices
- Seed production unit was setup at Instruction Farm, of local farmer and the land was on lease. Approx. 100 quintal seeds of two variety viz. DBW187 and DBW222 was produced. After harvesting, the seeds were processed at ICAR-IARI, New Delhi. 60 quintals (Truthfully labelled) seeds were packaged (pack of 20 kg) for distribution among the farmers of NCR Region. To provide training to farmers, a workshop was organized for improved cultivation techniques of rabi crops and to distribute the quality seeds of wheat produce at Sharda University on 08.10.2021. The students of B. Sc. (Hons.) Agriculture were also trained for seed production technologies of wheat. 56 quintal seeds was sold to farmers @Rs.35/kg. Four quintal grain was used to prepare Multigrain Atta and sold to staff at the Sharda University. A revenue of Rs. 55,698/-was generated through the sale of Truthfully labelled seed



Roughing and removal of off type plant



Inspection by experts from Sharda University at Farmer's field, G. Noida

Workshops / Trainings



Coverage of Extension Activities

