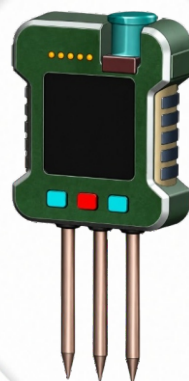


# From Innovation to Recognition

A Compendium of Patents & Copyrights by KVKs of Zone-I



**ICAR-Agricultural Technology Application Research Institute  
Zone-I, PAU Campus, Ludhiana - 141 004, Punjab**





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Zone-I, PAU Campus, Ludhiana - 141 004, Punjab**





### Compiled by:

Parvender Sheoran  
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Page Setting: Cheena Vyas



(Scan QR Code to Download PDF)

## From Innovation to Recognition

A Compendium of Patents & Copyrights by KVKs of Zone-I

### Concept & Guidance:

**Dr. Rajbir Singh**

Deputy Director General (Agril. Extension)  
ICAR, New Delhi.

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# Preface

Intellectual Property Rights (IPR) are an important mechanism for recognizing, protecting and promoting innovation and creativity. In agricultural research and extension, innovations emerging from research institutions and Krishi Vigyan Kandra's (KVKs) have significant potential to address field-level challenges, improve farm productivity and contribute to sustainable agricultural development. Appropriate protection of such innovations also facilitates their wider dissemination, utilization and commercialization.

ICAR-Agricultural Technology Application Research Institute (ATARI), Ludhiana, Zone-I is committed to promoting a culture of innovation, documentation and intellectual property protection among its network of KVKs. The KVKs, through technology assessment, refinement, demonstration, capacity building and close interaction with farmers, generate and facilitate several innovative technologies, processes, educational resources and knowledge products.

The present booklet provides a concise compilation of patents, copyrights and other IPR achievements of KVKs under ICAR-ATARI, Ludhiana, Zone-I, particularly covering the recent years. It highlights the innovative contributions of KVK scientists and serves as a record of institutional efforts towards generating and protecting intellectual assets.

I appreciate the efforts of all KVK scientists and staff who have contributed to this compilation. Their commitment to innovation and problem-solving is an important contribution to strengthening agricultural research, extension and technology application.

We sincerely express our gratitude to Dr. M. L. Jat, Secretary, DARE and Director General, ICAR for his valuable guidance, encouragement, and continuous support. We also extend my sincere thanks and acknowledgements to all, dedicated KVK staff members for their valuable contributions for this booklet.

I hope this booklet will serve as a useful reference and source of motivation for scientists, researchers, KVK professionals and other stakeholders, and will contribute towards fostering a stronger innovation and IPR culture in agricultural research and extension.



**(Rajbir Singh)**

Deputy Director General (Agril. Extension)  
ICAR, New Delhi



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# Introduction

## Intellectual Property Rights (IPR)

Intellectual Property Rights (IPR) have become an essential instrument in today's globalized, knowledge-driven economy, providing a framework for protecting and promoting creativity, innovation and technological advancement. Fostering innovation is also an important component of India's development agenda and its commitment to sustainable and inclusive growth.

## What are Intellectual Property Rights (IPR)

Intellectual Property Rights (IPR) are legal rights granted to individuals, researchers, inventors, and institutions for protecting their original inventions, innovations, creative works, designs, brands, and knowledge-based outputs. IPR provides legal recognition and a degree of exclusive control over intellectual creations, thereby preventing their unauthorized use, reproduction, exploitation, or commercialization. It also promotes innovation by providing opportunities for protection, technology transfer, licensing, commercialization, entrepreneurship, and economic returns.

## History of IPR in India

The formal development of the Indian intellectual property system can be traced back to the 19th century, with the introduction of patent legislation. The first Indian patent law was enacted in 1856, marking the beginning of the formal patent system in India. This was followed by successive legislation on patents and designs, including the Indian Patents and Designs Act, 1911. After Independence, India strengthened its IPR framework through important legislation such as the Copyright Act, 1957 and the Patents Act, 1970. Subsequently, India's IPR regime underwent significant reforms following its obligations under the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), particularly from the mid-1990s onwards. India subsequently developed a comprehensive framework covering patents, copyrights, trademarks, geographical indications, industrial designs, plant varieties and other forms of intellectual property.

## Major IPR Categories

The major forms of IPR include:

1. Patents - protection for novel and inventive products, processes, technologies and inventions.
2. Copyright - protection of original literary, artistic, educational and digital works.
3. Trademarks - protection of brand names, logos, symbols and other identifiers.
4. Geographical Indications (GI) - protection of products associated with a specific geographical origin and distinctive characteristics.
5. Industrial Designs - protection of the aesthetic or visual features of products.
6. Trade Secrets - protection of confidential commercial information, processes and know-how.
7. Plant Variety Protection - protection of eligible new plant varieties and associated breeders' rights.

## IPR in Agriculture

IPR has particular significance in agriculture because the sector is increasingly driven by scientific innovation, biotechnology, improved crop varieties, mechanization, food processing, value addition, digital technologies and indigenous knowledge. Patents can protect novel agricultural machinery, processing technologies, formulations and technical processes; plant variety protection safeguards eligible new and improved crop varieties; trademarks protect agricultural and food brands; GI protection supports unique region-specific agricultural products; copyrights protect training manuals, IEC materials, publications, software and other original content; and industrial designs can protect the appearance of agricultural equipment and packaging.

Effective IPR management in agriculture helps convert research outputs into protected technologies and marketable innovations, facilitates technology transfer from research institutions to farmers and industries, encourages entrepreneurship and commercialization, and supports recognition of researchers and institutions. Thus, IPR provides an important bridge between agricultural research, innovation, technology transfer, commercialization and societal impact.

Krishi Vigyan Kendra's (KVKs) mainly act as identifiers, validators and facilitators of agricultural innovations, while patent filing and legal prosecution are generally undertaken through the concerned ICAR/SAU IPR Cell or authorized institutional mechanism.

KVKs generally acquire patents and copyright through the ICAR/SAU institutional IPR mechanism. The process involves:

1. Identification of innovation - KVK scientists identify a novel technology, farm implement, process, product or value-added technology developed through research or field validation.
2. Technical documentation - Details of the innovation, novelty, inventors and experimental/field validation are documented.
3. Novelty assessment - The technology is examined through a prior-art/patentability search to establish novelty and inventive step.
4. IPR Cell/Institutional support - KVK forwards the proposal to the concerned ICAR Institute, Agricultural University or Institutional IPR Cell for evaluation and filing.
5. Patent application - A patent application is prepared and filed with the Indian Patent Office, with the inventors and institutional ownership appropriately recorded.
6. Examination and grant - The application undergoes examination, responses/clarifications are submitted where required, and the patent is granted if statutory requirements are fulfilled.
7. Technology transfer - After protection, the innovation may be licensed, commercialized or promoted through entrepreneurship and KVK extension activities.

IPR convert agricultural innovations into legally protected intellectual assets, encouraging innovation, investment, technology transfer and commercialization for the benefit of farmers and society. Protection of the innovation, however, is not the end of the process. The ultimate objective is to ensure that the



protected technology reaches its intended users. Therefore, following protection, the innovation may be taken forward through technology transfer, licensing, commercialization, entrepreneurship, demonstrations and KVK extension activities, as appropriate. This completes the pathway from an identified field-level problem or research innovation to a legally protected and potentially useful agricultural technology

### **IPR as a bridge between Innovation and Impact**

Thus, IPR should be viewed not merely as a legal mechanism for obtaining patents or copyrights, but as an integral component of the agricultural innovation ecosystem. For KVKs and agricultural scientists, systematic identification and documentation of innovations can provide opportunities for protecting valuable intellectual outputs and ensuring due recognition of the individuals and institutions involved. At the same time, institutional IPR mechanisms can facilitate the transition of these innovations from research and field validation to protection, technology transfer and commercialization.

In this context, greater awareness of IPR among KVK scientists is important for ensuring that potentially valuable innovations are identified at an early stage, appropriately documented and taken forward through the institutional IPR mechanism. Patents, copyrights and other forms of IPR can therefore serve as important instruments for converting agricultural knowledge and innovations into protected intellectual assets, strengthening technology transfer, encouraging entrepreneurship and ultimately enhancing the contribution of agricultural research to farmers and society.





01

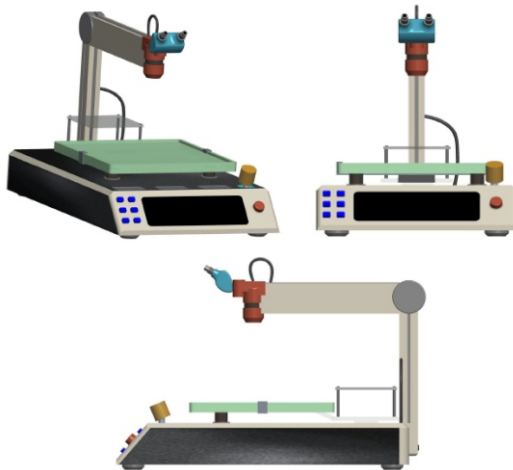
## Dual Magnification Beetle Genitalia Removing Device

UK Design Registration



KVK Srinagar, SKUAST-K, Srinagar, J&K

The design combines a magnification and optical viewing arrangement with a laboratory work platform and a precision removal mechanism. The represented device provides a stable and organized setup for close visual examination, positioning, and controlled manipulation of beetle genitalia. Its integrated structure supports accurate handling of small biological specimens, facilitating detailed morphological observation, careful dissection, and specimen preparation for taxonomic, research, and laboratory-based entomological studies.



**Certificate of Registration for a UK Design**

Design number: 6406001  
Grant date: 30 November 2024  
Registration date: 20 November 2024

This is to certify that,

in pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of

Abdulrahman Abdullah Almadiy, Fahd Mohammed Abd Al Galil, Showket

Ahmad Dar, Mariam Saleem Al-Ghamdi

in respect of the application of such design to:

Dual Magnification Beetle genitalia removing Device

International Design Classification:  
Version: 14-2023  
Class: 24 MEDICAL AND LABORATORY EQUIPMENT  
Subclass: 01 APPARATUS AND EQUIPMENT FOR DOCTORS, HOSPITALS AND LABORATORIES

Version: 14-2023  
Class: 16 PHOTOGRAPHIC, CINEMATOGRAPHIC AND OPTICAL APPARATUS  
Subclass: 06 OPTICAL ARTICLES

*Adam Williams*

Adam Williams  
Controller-General of Patents, Designs and Trade Marks  
Intellectual Property Office  
The attention of the Proprietor(s) is drawn to the important notes overleaf.

Intellectual Property Office is an operating name of the Patent Office [www.gov.uk/ip](http://www.gov.uk/ip)

### INNOVATION IMPACT

- Enables precise beetle genitalia removal, improving visualization, handling accuracy, laboratory efficiency, and reducing procedural errors.

| Design No. | Registration | Grant Date | Class | Sub-class | Jurisdiction   |
|------------|--------------|------------|-------|-----------|----------------|
| 6406001    | 20/11/2024   | 30/11/2024 | 24/16 | 01/06     | United Kingdom |

### KEY COMPONENTS & FEATURES

#### DUAL-MAGNIFICATION OPTICAL ARRANGEMENT

Provides two magnification levels for detailed specimen observation.

#### PRECISION VIEWING HEAD

Positioned above the work area for accurate and focused viewing.

#### INTEGRATED VERTICAL SUPPORT AND POSITIONING ARM

Enables precise positioning and stable alignment of the viewing system.

#### CONTROLLED ACCESS TO SPECIMEN/WORK SURFACE

Allows convenient and controlled handling of specimens during observation.

### INVENTORS

- Abdulrahman Abdullah Almadiy
- Fahd Mohammad Abd Al Galil
- \*Showket Ahmad Dar
- Mariam Saleem Al-Ghamdi

\* KVK Srinagar



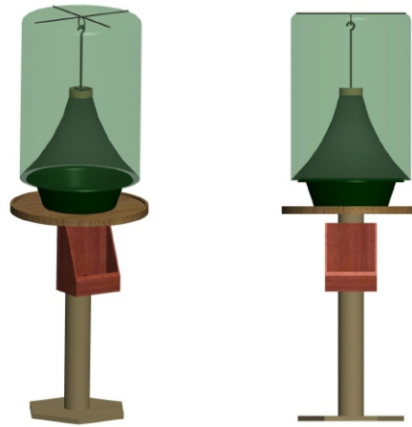
## 02 SARCOPHAGIDAE FLY TRAP

UK Design Registration



KVK Srinagar, SKUAST-K Srinagar, J&K

The Sarcophagidae Fly Trap is a pest-control device registered as a UK design, featuring a distinctive suspended trap configuration. Its structure includes a protective upper enclosure, central funnel-shaped trapping section, collection chamber, and supporting stand. Designed for pest-killing applications, the device provides a purpose-built configuration for trapping Sarcophagidae flies. The registered design establishes its visual identity and supports intellectual property protection for its distinctive structural arrangement.



### Certificate of Registration for a UK Design

Design number: 6406000

Grant date: 04 January 2025

Registration date: 20 November 2024

This is to certify that,

in pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of

Abdulrahman Abdullah Almadiy, Fahd Mohammed Abd Al Galil, Showket Ahmad

Dar, Wafa Abdullah Hamad Alkherb

in respect of the application of such design to:

Sarcophagidae Fly Trap

International Design Classification:  
Version: 14-2023  
Class: 22 ARMS, PYROTECHNIC ARTICLES, ARTICLES FOR HUNTING,  
FISHING AND PEST KILLING  
Subclass: 06 TRAPS, ARTICLES FOR PEST KILLING

Adam Williams

Adam Williams  
Comptroller-General of Patents, Designs and Trade Marks  
Intellectual Property Office  
The attention of the Proprietor(s) is drawn to the important notes overleaf.



Intellectual Property Office is an operating name of the Patent Office [www.gov.uk/gov](http://www.gov.uk/gov)

| Design No. | Registration | Grant Date | Class | Sub-class | Jurisdiction   |
|------------|--------------|------------|-------|-----------|----------------|
| 6406000    | 20/11/2024   | 04/01/2025 | 22    | 06        | United Kingdom |

### KEY COMPONENTS & FEATURES

#### SUSPENDED, COMPACT TRAP CONFIGURATION

Designed for compact and efficient pest trapping.

#### PROTECTIVE TRANSLUCENT UPPER ENCLOSURE

Provides protection while allowing visibility of the trapping mechanism.

#### FUNNEL-SHAPED CENTRAL TRAPPING SECTION

Guides and directs pests into the central trapping area.

#### COLLECTION CHAMBER BELOW THE FUNNEL

Collects and contains trapped pests for easy handling.

#### SUITABLE FOR PEST-KILLING APPLICATIONS

Designed for effective pest trapping and killing applications.

### INVENTORS

1. Abdulrahman A. Almadiy
2. Fahd Mohammad Abd Al Galil
3. \*Showket Ahmad Dar
4. Wafa Abdullah Hamad Alkherb

\* KVK Srinagar

### INNOVATION IMPACT

- Improves precision and efficiency in grafting, reducing labor requirements and ensuring consistent, high-quality plant propagation.



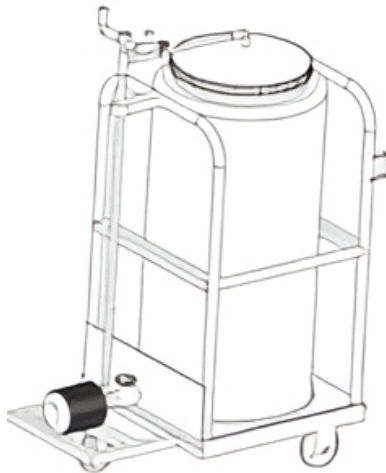
# 03

## PORTABLE MOTORIZED CHEMICAL SPRAYER



KVK Tehri Garhwal, VCSGUUH&F,  
Bharsar, UK

The Portable Motorized Chemical Sprayer is a compact device designed for uniform application of liquid chemicals, pesticides and fertilizers. Its motorized mechanism reduces manual effort and improves spraying speed and consistency. The portable design enables easy handling and movement across agricultural fields and landscaping areas. It supports efficient and convenient crop and plant protection operations.



### INNOVATION IMPACT

- Improves spraying efficiency and uniformity while reducing manual labour, supporting convenient and timely chemical application in agricultural and landscaping operations.

| Certificate Type       | Design No. | Date of Registration | Class | Application        |
|------------------------|------------|----------------------|-------|--------------------|
| Registration of Design | 405976-001 | 29.01.2024           | 23-01 | Multipurpose spray |

### KEY COMPONENTS & FEATURES

#### MOTORIZED SPRAYING UNIT

Provides efficient and uniform chemical application.

#### PORTABLE STRUCTURE

Allows easy handling and mobility across fields.

#### CONTROLLED CHEMICAL DELIVERY

Supports consistent distribution of liquid inputs.

#### REDUCED MANUAL EFFORT

Speeds up spraying while lowering labour requirements.

### INVENTORS

1. Dr. Deepak K. Yadavanshi
2. \*Dr. Sachin Kumar
3. Dr. Salman Khan
4. Dr. Suraj Malik
5. Dr. Sandeep Kushwaha
6. Dr. Hemlata Pant
7. Mr. Tsegay T. Tegegne
8. Mr. Ashenafi K. Negash
9. Mr. Ashwani Sharma
10. Dr. Harish Kumar

\* KVK Tehri Garhwal





04

## AQUATIC NUTRIENT REMOVAL DEVICE For Agricultural Use



KVK Kargil-I, University of Ladakh, Ladakh

The Aquatic Nutrient Removal Device for Agricultural Use is an innovative design developed to manage nutrient-rich agricultural runoff and aquatic systems affected by excessive fertilizer inputs. The device is intended to filter, capture, or extract excess nutrients such as nitrogen and phosphorus from water, thereby supporting improved water quality and reducing nutrient-related environmental impacts. It promotes sustainable water management, efficient nutrient control, environmental protection, and responsible agricultural practices while contributing to healthier aquatic ecosystems.



| Certificate Type       | Design No. | Date of Registration | Class | Application                   |
|------------------------|------------|----------------------|-------|-------------------------------|
| Registration of Design | 415267-001 | 29.04.2024           | 15-03 | Agricultural Water management |

### KEY COMPONENTS & FEATURES

#### NUTRIENT REMOVAL

Filters/extracts excess nitrogen and phosphorus from water.

#### RUNOFF MANAGEMENT

Addresses nutrient-rich agricultural runoff.

#### WATER QUALITY SUPPORT

Helps improve water quality for agricultural reuse.

#### ECO-CONSCIOUS DESIGN

Supports sustainable water management and responsible farming.



### INNOVATION IMPACT

- Supports cleaner agricultural water systems by addressing excess nutrients in runoff, contributing to sustainable water management and environmentally responsible farming.

### INVENTORS

- Owais Ali Wani
- Anas Ibn Ali Wani
- Nazir Hussain A. Dar
- Mehraj Hussain S.
- \*Dr. Nasreen Fatima
- Mohd Hussain T.
- Dr. Subhash Babu G.
- Dr. Md Yeasin H.
- Nazir A. Ganaie

\* KVK Kargil-I

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## 05 AUTOMATED BIRD SCARER

 Sher-E-Kashmir University of Agricultural Sciences & Technology, Kashmir, J&K

The Automated Bird Scarer is an agricultural crop-protection device designed to deter birds through automated stimuli. It can use sound, motion or visual signals triggered by sensors or timers. The system reduces the need for continuous manual monitoring and helps protect crops in farms and orchards. Its non-harmful deterrence approach supports efficient and sustainable crop protection.



### INNOVATION IMPACT

- Reduces bird-related crop losses and manual monitoring through automated, non-harmful deterrence, supporting efficient protection of farms and orchards.

| Certificate Type       | Design No. | Date of Registration | Class | Application             |
|------------------------|------------|----------------------|-------|-------------------------|
| Registration of Design | 417207-001 | 17.05.2024           | 15-03 | Crop/orchard protection |

### KEY COMPONENTS & FEATURES

#### AUTOMATED DETERRENCE

Uses programmed sound, motion or visual stimuli.

#### SENSOR / TIMER CONTROL

Triggers deterrence automatically when required.

#### NON-HARMFUL OPERATION

Designed to deter birds without physical harm.

#### CROP PROTECTION

Helps reduce bird damage and manual monitoring.

### INVENTORS

- Owais Ali Wani
- Anas Ibn Ali Wani
- \*Nazir A. Ganai
- Fallah Nazir S.
- Subhash Babu G.
- Faique Nazir
- \*Raihana H. Kanth (DEE)
- Nazir Hussain G.
- Md. Yeasin H.

\*Sher-E-Kashmir University of Agricultural Sciences & Technology, Kashmir



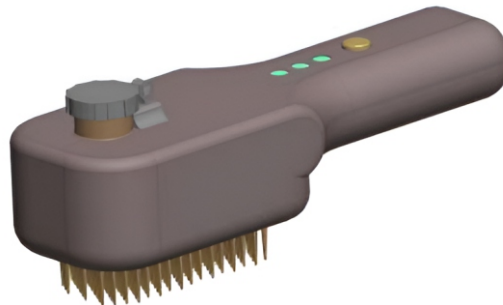
06

## HONEY-GARLIC INFUSED SCALP BRUSH FOR HAIR GROWTH



KVK Srinagar, SKUAST-K Srinagar, J&K

The Honey-Garlic Infused Scalp Brush is a bio-inspired personal-care innovation that incorporates natural honey and garlic extracts into the bristles of a specially designed scalp brush. It is intended to gently massage the scalp, stimulate circulation, nourish the scalp, and support healthier-looking hair. The innovation combines traditional herbal knowledge with modern product design, offering a sustainable, affordable self-care solution while promoting value addition from locally available farm-based natural resources.



| Certificate Type       | Design No. | Date of Registration | Class | Application                 |
|------------------------|------------|----------------------|-------|-----------------------------|
| Registration of Design | 431258-001 | 22.09.2024           | 04-02 | Personal Care / Hair Growth |

### KEY COMPONENTS & FEATURES

#### HONEY & GARLIC INFUSION

Natural honey and garlic extracts are incorporated into the bristles.

#### SPECIALLY DESIGNED SCALP BRUSH

Provides a dedicated format for scalp and hair-care use.

#### SCALP STIMULATION

Designed to stimulate scalp circulation and strengthen hair follicles.

#### SUSTAINABLE, LOW-COST CONCEPT

Combines traditional herbal knowledge with modern design.

### INNOVATION IMPACT

- Demonstrates value addition of farm-based natural resources into a low-cost personal-care product, combining traditional herbal knowledge with practical modern design.

### INVENTORS

1. \*Showkat Ahmad Dar
2. Wajid Hussain
3. Mufasssum Hussain
4. Rayees Ahmad Wani
5. Syed Naseem Zaffar
6. Talib Bashir Bhatt
7. Dev Karan Bairwa
8. Yendrebam K. Devi
9. Umar Bin Farook

\* KVK Srinagar

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## 07 DOUBLE CONICAL WASP TRAP

KVK Srinagar, SKUAST-K Srinagar, J&K

The Double Conical Wasp Trap is an eco-friendly pest-management device designed to control wasp populations in agricultural and horticultural areas. Its dual conical chambers trap wasps and other flying pests using attractants, reducing crop damage without harmful pesticides. The simple and reusable design offers a practical, low-cost approach to field pest management. It supports sustainable, non-chemical crop protection and environmentally responsible farming.



| Certificate Type       | Design No. | Date of Registration | Class | Application                               |
|------------------------|------------|----------------------|-------|-------------------------------------------|
| Registration of Design | 431252-001 | 22.09.2024           | 22-06 | Agricultural / horticultural pest control |

### KEY COMPONENTS & FEATURES

#### DUAL CONICAL CHAMBERS

Creates an effective trapping pathway for wasps and flying pests.

#### ATTRACTANT-BASED TRAPPING

Lures target pests without relying on harmful pesticides.

#### REUSABLE STRUCTURE

Simple design supports repeated field use.

#### LOW-COST & ECO-FRIENDLY

Provides a practical non-chemical pest-management option.

### INVENTORS

1. \* Dr. Showkat Ahmad Dar
2. Sh. Syed Naseem Zaffar
3. Naveena Nazim
4. \*Dr. Shamim A. Simnani
5. Wazid Hasan
6. Yendrebam K. Devi
7. Amaar Al-Farga
8. Ayah T. Zaidalkilani
9. Umer Bin Farook
10. Rayees Ahmad Wani
11. Dev Karan Bairwa

\* KVK Srinagar

### INNOVATION IMPACT

- Provides a reusable, low-cost and non-chemical method for reducing wasp and flying-pest pressure, supporting safer and more sustainable crop protection.



**08**

## HEMLOCK EXTRACT BIO-PESTICIDE DISPENSER



KVK Srinagar, SKUAST-K Srinagar, J&K

The Hemlock Extract Bio-Pesticide Dispenser is an eco-friendly agricultural device designed to dispense plant-based bio-pesticides derived from hemlock extract. It enables controlled and targeted release of bio-pesticides for efficient pest management while safeguarding beneficial insects and soil health. The innovation supports integrated pest management (IPM), sustainable agriculture and organic farming initiatives. It offers a practical approach to reducing dependence on synthetic pesticides and promoting green agricultural technologies.



| Certificate Type       | Design No. | Date of Registration | Class | Application                 |
|------------------------|------------|----------------------|-------|-----------------------------|
| Registration of Design | 431253-001 | 22.09.2024           | 15-03 | Plant-based Pest Management |

### KEY COMPONENTS & FEATURES

#### PLANT-BASED BIO-PESTICIDE

Uses hemlock extract as a plant-derived pest-control formulation.

#### CONTROLLED DISPENSING

Provides targeted and controlled release of bio-pesticide.

#### ECO-FRIENDLY PEST MANAGEMENT

Offers a non-synthetic approach while protecting beneficial insects and soil health.

#### IPM & ORGANIC FARMING SUPPORT

Supports integrated pest management and sustainable farming practices.



### INNOVATION IMPACT

- Promotes sustainable pest management using plant-based biopesticides, reducing chemicals and protecting soil and beneficial insects.

### INVENTORS

- \*Showkat Ahmad Dar
- Mir Muskan Un Nisa
- Kounser Javeed
- Rayees Ahmad Wani
- Wajid Hasan
- Dev Karan Bairwa
- Yendrembam K. Devi
- Umer Bin Farook
- Syed Naseem Zaffar

\* KVK Srinagar

Advancing Precision • Enhancing Productivity • Strengthening Plant Propagation



## 09 BIO-SPRAY DEVICE FOR PADDY CROPS

**KVK Srinagar, SKUAST-K Srinagar, J&K**

The Bio-Spray Device for Paddy Crops is an eco-innovative solution designed to apply bio-pesticides and plant-based formulations efficiently in paddy fields. It promotes sustainable pest and nutrient management through precision spraying with minimal chemical waste. Designed for paddy ecosystems, it supports organic and natural farming practices and reduces dependence on synthetic agrochemicals. The innovation enables uniform bio-input application while supporting eco-friendly, low-carbon agriculture.



**Certificate Type**  
Registration of Design

**Design No.**  
421514-001

**Date of Registration**  
22.09.2024

**Class**  
15-03

**Application**  
Paddy Pest & Nutrient Management

### KEY COMPONENTS & FEATURES

#### BIO-INPUT SPRAYING SYSTEM

Applies bio-pesticides and plant-based formulations efficiently.

#### PRECISION APPLICATION

Promotes uniform spraying with reduced chemical waste.

#### PADDY-SPECIFIC DESIGN

Developed for practical pest and nutrient management in paddy ecosystems.

#### SUSTAINABLE FARMING SUPPORT

Supports organic/natural farming and reduces synthetic agrochemical dependence.

### INVENTORS

1. **\*Sh. Showkat Ahmad Dar**
2. Wajid Hasan
3. Rayees Ahmad Wani
4. Umer Bin Farook
5. Dev Karan Bairwa
6. Yendrembam K. Devi
7. Talib Bashir Bhat
8. Oyais Ahmad Wagay
9. Syed Naseem Zaffar

\* KVK Srinagar

### INNOVATION IMPACT

- Promotes sustainable paddy production through precise bio-input application, reducing reliance on synthetic agrochemicals and supporting low-carbon, eco-friendly farming.

**Advancing Precision • Enhancing Productivity • Strengthening Plant Propagation**

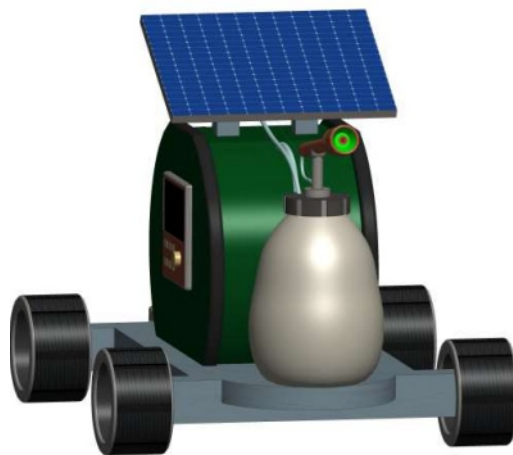




## 10 SOLAR-POWERED BIO-PESTICIDE SPRAYER FOR APHIDS

**KVK Srinagar, SKUAST-K Srinagar, J&K**

The Solar-Powered Biopesticide Sprayer is a renewable-energy-based agricultural device designed for eco-friendly pest management. It uses solar energy to operate a precision spraying mechanism that applies bio-pesticides against common crop pests such as aphids and mites. The design reduces dependence on fossil fuels and supports climate-smart agriculture. By combining solar technology with sustainable pest-control methods, it offers a frugal and green approach to agricultural protection.



| Certificate Type       | Design No. | Date of Registration | Class | Application                             |
|------------------------|------------|----------------------|-------|-----------------------------------------|
| Registration of Design | 431255-001 | 22.09.2024           | 15-03 | Biopesticide Spraying / Pest Management |

### KEY COMPONENTS & FEATURES

#### SOLAR-POWERED OPERATION

Uses renewable solar energy to power spraying.

#### PRECISION SPRAYING MECHANISM

Applies bio-pesticides to target common crop pests.

#### ECO-FRIENDLY PEST MANAGEMENT

Reduces dependence on fossil fuels and supports sustainable control.

#### PORTABLE FIELD APPLICATION

Designed for practical agricultural pest-management operations.

### INVENTORS

1. \*Showkat Ahmad Dar
2. Wajid Hasan
3. Rayees Ahmad Wani
4. Kounser Javed
5. Umer Bin Farook
6. Dev Karan Bairwa
7. Yendrembam K. Devi
8. Parvez Ahmad Khan
9. Syed Naseem Zaffar

\* KVK Srinagar

### INNOVATION IMPACT

- Promotes low-carbon, eco-friendly pest management by combining solar energy with biopesticide application, supporting climate-smart and sustainable agriculture.

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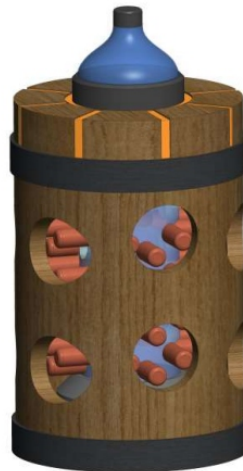
# 11

## UV-ENHANCED FOREST BEETLE TRAP



KVK Srinagar, SKUAST-K Srinagar, J&K

The UV-Enhanced Forest Beetle Trap is a pest management device designed to attract and trap beetles using ultraviolet (UV) light technology. It provides an eco-friendly alternative to chemical pesticides, particularly for forest ecosystems and orchards. The design combines UV-based attraction with a portable, energy-efficient structure for field use. It supports integrated pest management (IPM) and biodiversity conservation while protecting economically important tree species.



| Certificate Type       | Design No. | Date of Registration | Class | Application                  |
|------------------------|------------|----------------------|-------|------------------------------|
| Registration of Design | 431257-001 | 22.09.2024           | 22-06 | Forest Ecosystems & Orchards |

### KEY COMPONENTS & FEATURES

#### UV LIGHT ATTRACTION

Uses ultraviolet light to enhance beetle attraction efficiency.

#### NON-CHEMICAL PEST CONTROL

Reduces dependence on chemical pesticides and ecological harm.

#### PORTABLE & ENERGY-EFFICIENT DESIGN

Designed for practical deployment in forests and orchards.

#### INTEGRATED PEST MANAGEMENT

Supports sustainable pest control and biodiversity conservation.



### INNOVATION IMPACT

- Enables non-chemical beetle management using UV attraction, supporting sustainable IPM, reduced ecological harm and biodiversity conservation in forests and orchards.

### INVENTORS

1. **Showkat Ahmad Dar**
2. Wajid Hasan
3. Dev Karan Bairwa
4. Yendrembam K. Devi
5. Umer Bin Farooq
6. Rayees Ahmad Wani
7. Syed Naseem Zaffar
8. Talib Bashir Bhat

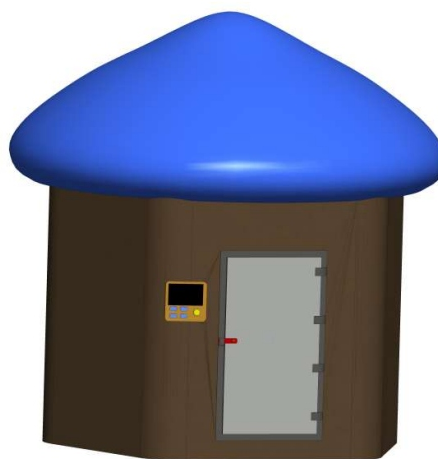
\* KVK Srinagar



## 12 WINTER-PROOF MUD HOUSES FOR BEES

**KVK Srinagar, SKUAST-K Srinagar, J&K**  
**KVK Kupwara, SKUAST-K Srinagar, J&K**

The Winter-Proof Mud Houses for Bees is a registered design developed for providing protective and suitable housing to bee colonies during winter conditions. The design focuses on a mud-based structure that offers shelter from cold temperatures, winds, and seasonal weather fluctuations. It represents a simple, economical, and climate-responsive approach to beekeeping infrastructure. The design may support safer seasonal shelter, better protection of colonies, improved winter management, and enhanced care of bees under adverse climatic conditions.



| Certificate Type       | Design No. | Date of Registration | Class | Application                     |
|------------------------|------------|----------------------|-------|---------------------------------|
| Registration of Design | 431259-001 | 22.09.2024           | 25-03 | Bee housing / winter protection |

### KEY COMPONENTS & FEATURES

#### WINTER-PROTECTIVE HOUSING

Provides a protective structure for bees during colder conditions.

#### MUD-BASED STRUCTURE

Uses the design concept of mud houses for bee shelter.

#### SEASONAL SHELTER

Designed around the need for winter protection of bee colonies.

#### PRACTICAL BEEKEEPING SUPPORT

Offers a simple, climate-responsive housing concept.



### INNOVATION IMPACT

- Provides a climate-responsive bee-housing concept focused on winter protection, supporting practical and sustainable beekeeping management.

### INVENTORS

- \*Showket Ahmad Dar
- Syed Naseem Zaffar
- M. Iqbal Jeelani
- Sajad Ahmad Gangoo
- \*\*G. M. Bhat

\* KVK Srinagar \*\* KVK Kupwara

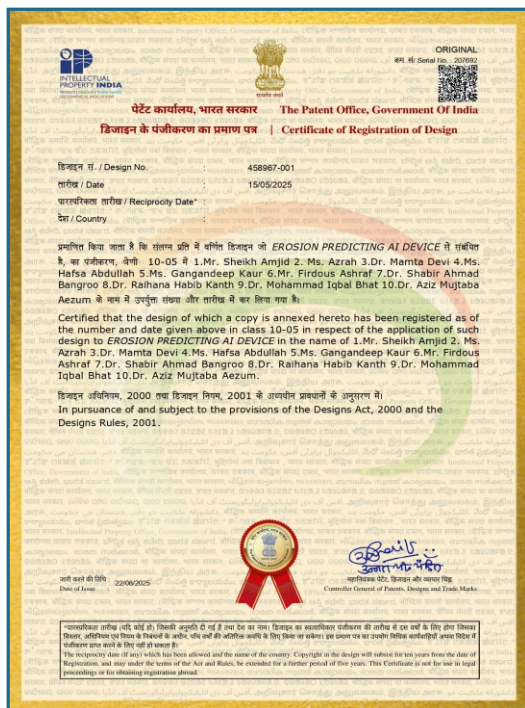




## 13 EROSION PREDICTING AI DEVICE

 **Sher-E-Kashmir University of Agricultural Sciences & Technology, Kashmir, J&K**

The Erosion Predicting AI Device is an intelligent system that uses artificial intelligence to analyse soil, terrain and weather data. It forecasts areas at risk of soil erosion before visible damage occurs. By identifying vulnerable zones early, it supports timely preventive action by farmers and land planners. The technology promotes sustainable land management, protects agricultural productivity and helps reduce long-term environmental degradation.



### INNOVATION IMPACT

- Enables early identification of erosion-prone areas, supporting timely soil conservation, sustainable land management and protection of agricultural productivity.

|                                                   |                                 |                                           |                       |                                                                 |
|---------------------------------------------------|---------------------------------|-------------------------------------------|-----------------------|-----------------------------------------------------------------|
| <b>Certificate Type</b><br>Registration of Design | <b>Design No.</b><br>458967-001 | <b>Date of Registration</b><br>15.05.2025 | <b>Class</b><br>10-05 | <b>Application</b><br>Soil erosion prediction / land management |
|---------------------------------------------------|---------------------------------|-------------------------------------------|-----------------------|-----------------------------------------------------------------|

### KEY COMPONENTS & FEATURES

#### AI-BASED RISK ANALYSIS

Analyses soil, terrain and weather information.

#### EROSION RISK FORECASTING

Predicts vulnerable areas before major erosion occurs.

#### EARLY WARNING CAPABILITY

Identifies high-risk zones for timely preventive action.

#### SUSTAINABLE LAND MANAGEMENT

Supports soil conservation and protection of farm productivity.

### INVENTORS

- Mr. Sheikh Amjid
- Ms. Azrah
- Dr. Mamta Devi
- Ms. Hafsa Abdullah
- Ms. Gangandeep Kaur
- Mr. Firdous Ashraf
- Dr. Shabir Ahmad Bangroo
- \*Dr. R. H. Kanth (DEE)**
- Dr. Mohammad Iqbal Bhat
- Dr. Aziz Mujtaba Aezum

*\*Sher-E-Kashmir University of Agricultural Sciences & Technology, Kashmir*



## 14 FARMER TRAINING DIGITAL DEVICE

**KVK Reasi, SKUAST-J Jammu, J&K**  
**KVK Doda, SKUAST-J Jammu, J&K**

The Farmer Training Digital Device is an advanced digital tool designed for farmer training programmes. It combines a rugged handheld or kiosk-based unit with touchscreen display, camera, microphone, GPS, environmental sensors and wireless connectivity. Embedded multilingual training modules cover crop management, soil health, irrigation, pest control and market practices. Interactive visual lessons, voice prompts, quizzes and real-time field sensing support practical learning, decision-making and progress tracking.



|                                                   |                                 |                                           |                       |                                                           |
|---------------------------------------------------|---------------------------------|-------------------------------------------|-----------------------|-----------------------------------------------------------|
| <b>Certificate Type</b><br>Registration of Design | <b>Design No.</b><br>489330-001 | <b>Date of Registration</b><br>02.02.2026 | <b>Class</b><br>14-02 | <b>Application</b><br>Farmer Training / Digital Extension |
|---------------------------------------------------|---------------------------------|-------------------------------------------|-----------------------|-----------------------------------------------------------|

### KEY COMPONENTS & FEATURES

#### INTERACTIVE TOUCHSCREEN & TRAINING MODULES

Provides visual lessons, voice prompts and quizzes.

#### CAMERA, MICROPHONE & SENSORS

Captures field conditions and supports interactive learning.

#### GPS & WIRELESS CONNECTIVITY

Enables location-aware information and mobile/satellite connectivity.

#### MULTILINGUAL & REAL-TIME SUPPORT

Supports diverse farmers with alerts, tracking and field-based learning.

### INVENTORS

1. \*Dr. Banarsi Lal
2. \*\*Dr. Amit Singh Charak
3. Dr. Monica Reshi
4. Asif Ali
5. Dr. Arashdeep Kour

\* KVK Reasi \*\* KVK Doda

### INNOVATION IMPACT

- Improves farmer learning through multilingual, interactive digital training, enabling informed decisions and reducing input misuse.

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## 15 EARLY WARNING SYSTEM FOR CROP DISEASE



KVK Reasi, SKUAST-J Jammu, J&K

The Early Warning System for Crop Disease is an AI-driven device for tomato crop diseases that uses imaging technology to detect diseases where they occur. It supports early identification of infection, enabling rapid response and timely interventions. The system helps monitor plant health, maximize yield and reduce crop loss. By providing early disease information, it supports healthier and more efficient agricultural practices.



### INNOVATION IMPACT

- Enables early disease detection and timely intervention, helping reduce crop losses, improve plant health and support healthier agricultural production.

| Certificate Type       | Design No. | Date of Registration | Class | Application                   |
|------------------------|------------|----------------------|-------|-------------------------------|
| Registration of Design | 466756-001 | 22.07.2025           | 24.02 | Tomato Crop Disease Detection |

### KEY COMPONENTS & FEATURES

#### AI-DRIVEN DISEASE DETECTION

Uses imaging technology to identify crop disease symptoms.

#### EARLY WARNING CAPABILITY

Detects infection at early stages for rapid response.

#### PLANT HEALTH MONITORING

Supports continuous observation of crop health and disease status.

#### TIMELY INTERVENTION SUPPORT

Helps farmers act early to reduce crop loss and protect yield.

### INVENTORS

- \*Dr. Banarsi Lal
- Dr. Raghu
- Dr. Anjana Arun
- Dr. Kohima Noopur
- Dr. Lalita Nagarge
- Dr. Azad Singh Panwar
- Dr. Charu Rajpal
- Dr. Abhishek V. Karadagi

\* KVK Reasi





# 16

## CONTROLLED NANO-FERTILIZER APPLICATION DEVICE



KVK Reasi, SKUAST-J Jammu, J&K

The Controlled Nano-Fertilizer Application Device combines a nano-fertilizer storage tank, precision metering pump, nozzle assembly, soil-moisture and nutrient sensors, GPS-based positioning and a microcontroller for automated application. Biodegradable nano-fertilizer carriers are stored and dispensed in controlled quantities based on real-time soil data. Sensors monitor soil conditions while the microcontroller regulates release according to crop requirements. The device is designed to minimize fertilizer wastage, optimize nutrient use and support sustainable agriculture.



| Certificate Type       | Design No. | Date of Registration | Class | Application                           |
|------------------------|------------|----------------------|-------|---------------------------------------|
| Registration of Design | 469917-001 | 16.08.2026           | 15-03 | Precision Nano-Fertilizer application |

### KEY COMPONENTS & FEATURES

#### PRECISION METERING SYSTEM

Controls nano-fertilizer quantity for accurate application.

#### SOIL SENSORS & GPS POSITIONING

Uses real-time soil data and location information for targeted delivery.

#### AUTOMATED MICRO CONTROLLER

Regulates fertilizer release according to crop requirements.

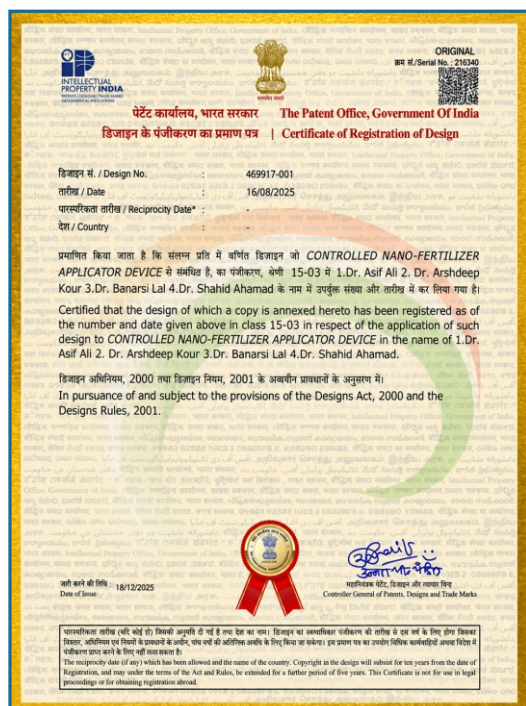
#### CONTROLLED & SUSTAINABLE APPLICATION

Reduces wastage and chemical overuse while supporting soil health.

### INVENTORS

1. Dr. Asif Ali
2. Dr. Arshdeep Kour
3. \*Dr. Banarsi Lal
4. Dr. Shahid Ahamad

\* KVK Reasi



### INNOVATION IMPACT

- Enables precise, data-driven nano-fertilizer application, reducing nutrient wastage and supporting efficient input use, improved crop nutrition and sustainable farming.

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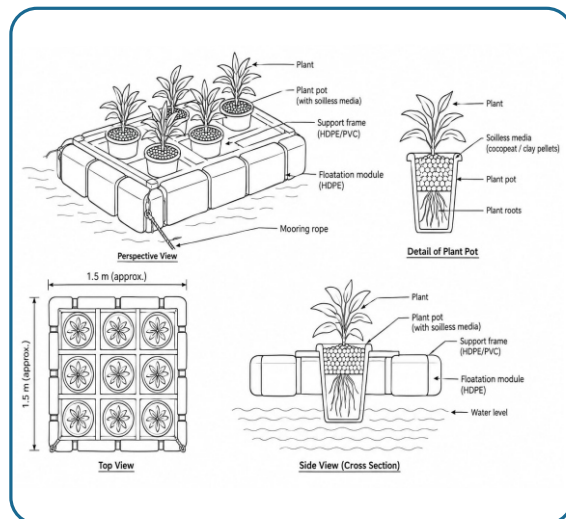
# 17

## FLOATING SOIL LESS PLANTING STAND



KVK Pulwama, SKUAST-K Kashmir, J&K

The Floating Soilless Planting Stand is a compact structural system for supporting and displaying plants grown without conventional soil. Its floating arrangement accommodates individual plant containers or growing units in a stable, organized manner. The design is suitable for soilless cultivation, hydroponic plants, nurseries and educational applications. Its modular and space-efficient structure supports attractive, organized plant cultivation in diverse settings.



|                                                   |                                 |                                           |                       |                                                         |
|---------------------------------------------------|---------------------------------|-------------------------------------------|-----------------------|---------------------------------------------------------|
| <b>Certificate Type</b><br>Registration of Design | <b>Design No.</b><br>479567-001 | <b>Date of Registration</b><br>08.11.2025 | <b>Class</b><br>11-02 | <b>Application</b><br>Soilless / hydroponic cultivation |
|---------------------------------------------------|---------------------------------|-------------------------------------------|-----------------------|---------------------------------------------------------|

### KEY COMPONENTS & FEATURES

#### FLOATING SUPPORT STRUCTURE

Provides stable support for plant containers and growing units.

#### MODULAR PLANT ARRANGEMENT

Organizes multiple plants in a compact configuration.

#### SOILLESS / HYDROPONIC COMPATIBILITY

Suitable for soil-free and hydroponic cultivation systems.

#### LIGHT WEIGHT & WATER-RESISTANT DESIGN

Supports practical use in nurseries, gardens and educational settings.

### INVENTORS

1. Dr. Shaista Khan
2. Prof. Tariq H. Masoodi
3. Dr. Nazir Ahmad Pala
4. \*Prof. Javeed A. Muglo
5. Prof. Parvez Ahmad Sofi
6. Dr. Shah Murtaza
7. Prof. Imtiaz Murtaza
8. Dr. Mohammad I. Jeelani

\* KVK Pulwama

### INNOVATION IMPACT

- Enables compact and organized soilless plant cultivation, supporting efficient use of space and wider adoption of hydroponic and nursery-based growing systems.

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18

## HYPER SPECTRAL CROP DISEASE DETECTOR



KVK Kargil-I, University of Ladakh, Ladakh

An advanced agricultural tool using hyperspectral imaging technology to enable early and accurate detection of crop diseases by analyzing plant spectral signatures. The system helps identify physiological stress, infections, nutrient deficiencies, and other crop abnormalities before visible symptoms become prominent. By providing timely information on crop health, it supports precise and targeted crop-management interventions, potentially reducing unnecessary chemical applications, minimizing crop losses, improving input-use efficiency, and promoting sustainable agricultural production.



| Certificate Type       | Design No. | Date of Registration | Class | Application                  |
|------------------------|------------|----------------------|-------|------------------------------|
| Registration of Design | 437709-001 | 18.11.2024           | 10-05 | Early Crop Disease Detection |

### KEY COMPONENTS & FEATURES

#### HYPER SPECTRAL IMAGING

Captures spectral signatures of crop plants.

#### DISEASE DETECTION

Identifies disease/stress at an early stage.

#### SPECTRAL ANALYSIS

Analyzes plant responses before visible symptoms.

#### PRECISION ADVISORY

Supports timely and targeted interventions.

### INVENTORS

1. Dr. Siddhartha Das
2. \*Dr. Nassreen F. Kacho
3. Mr. Kumar A. Biswal
4. Dr. Subrat Kumar Kar
5. Mr. Bikram Pradhan

\* KVK Kargil-I



### INNOVATION IMPACT

- Enables early identification of crop diseases, helping farmers and researchers respond promptly, reduce potential crop losses and improve precision in crop-health management.

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# 19

## Smart Soil Water Potential & Moisture Sensor



KVK Fazilka, ICAR-CIPHET, Ludhiana, Pb.

The Smart Soil Water Potential and Moisture Sensor is an advanced agricultural sensor designed to measure real-time soil water potential and moisture levels. It uses a sand matrix-based sensing mechanism and a robust 3D-printed enclosure with a replaceable screw-in design. The sensor helps monitor soil water availability, optimize irrigation scheduling and improve crop productivity. Its cost-effective and durable design supports precision agriculture, greenhouse monitoring and field research.



### INNOVATION IMPACT

- Enables real-time soil water monitoring for better irrigation decisions, supporting water-use efficiency, crop productivity and precision agricultural management.

| Certificate Type       | Design No. | Date of Registration | Class | Application                            |
|------------------------|------------|----------------------|-------|----------------------------------------|
| Registration of Design | 434941-001 | 20.10.2024           | 10-04 | Precision Soil & Irrigation Monitoring |

### KEY COMPONENTS & FEATURES

#### SAND MATRIX-BASED SENSING

Measures real-time soil water potential and moisture.

#### 3D-PRINTED ENCLOSURE

Provides a robust, durable and field-suitable housing.

#### REPLACEABLE SCREW-IN DESIGN

Supports long-term usability and easy replacement.

#### PRECISION MONITORING

Helps optimize irrigation and support precision agriculture.

### INVENTORS

- Dr. Saddam Husain
- \*Dr. Parkash C. Gujrar
- Meenakshi Meena
- Dr. Medida Sunil Kumar
- Dr. Biswajit Pramanick
- Dr. B. Sri Sai S. Naik
- Satya Narayan Gurjar
- Deshraj Meena

\* KVK Fazilka

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## 20 Rapid Handheld Fluorescent Stigma Receptivity Detector

KVK Ganderbal, SKUAST-K Kashmir, J&K

The Rapid Handheld Fluorescent Stigma Receptivity Detector is a portable and farmer-friendly design developed for rapid and convenient assessment of stigma receptivity in flowering crops. It provides a compact, field-oriented approach for detecting the appropriate stage of floral receptivity through fluorescent-based observation. The device can support timely decisions in crop improvement, controlled pollination, hybridization, breeding programmes, and related agricultural operations, thereby improving efficiency and facilitating accurate reproductive-stage management.



| Certificate Type       | Design No. | Date of Registration | Class | Application                        |
|------------------------|------------|----------------------|-------|------------------------------------|
| Registration of Design | 477579-001 | 19.10.2025           | 24-02 | Crop reproductive stage management |

### KEY COMPONENTS & FEATURES

#### HANDHELD DESIGN

Compact and portable for rapid field use.

#### FLUORESCENCE-BASED DETECTION

Uses fluorescent response to assess stigma receptivity.

#### RAPID ASSESSMENT

Supports quick identification of receptive floral stages.

#### FIELD-ORIENTED APPLICATION

Designed to support timely pollination and crop-improvement operations.

### INVENTORS

1. Dr. Mohammad I. Rather
2. Uzma Rashid
3. Mohd Ashraf Bhat
4. Javid Iqbal Mir
5. Sabina Nasseer
6. Zahoor Ahmed Dar
7. Md. Altaf Wani
8. Geetika Malik
9. \*Ajaz Ahmed Malik
10. Vishal Dinkar
11. Mohd Amir

\* KVK Ganderbal



### INNOVATION IMPACT

- Enables rapid, portable assessment of floral stigma receptivity, supporting timely pollination decisions and more efficient crop improvement practices.





## 21 PRECISION FARMING SMART DEVICE

**KVK Fazilka, ICAR-CIPHET, Ludhiana, Pb.**

The Precision Farming Smart Device integrates soil sensors, GPS, solar power and wireless communication for continuous field monitoring. It tracks soil moisture, nutrient levels and environmental conditions for timely farm decisions. Drone-based aerial imaging supports crop-health analysis, pest detection and irrigation planning. A connected mobile application provides alerts, recommendations and field reports for efficient resource management.



### INNOVATION IMPACT

- Enables data-driven, site-specific farm management by improving monitoring and input efficiency, reducing waste and supporting sustainable precision agriculture.

| Certificate Type       | Design No. | Date of Registration | Class | Application                              |
|------------------------|------------|----------------------|-------|------------------------------------------|
| Registration of Design | 478532-001 | 30.10.2025           | 15-03 | Precision agriculture / field monitoring |

### KEY COMPONENTS & FEATURES

#### SMART SOIL & ENVIRONMENT SENSORS

Continuously monitor moisture, nutrients and field conditions.

#### GPS & WIRELESS CONNECTIVITY

Enables location-based monitoring and real-time data transfer.

#### SOLAR-POWERED OPERATION

Supports long-term, eco-friendly use in remote fields.

#### DRONE & MOBILE INTEGRATION

Combines aerial crop insights with alerts and field recommendations.

### INVENTORS

- Dr. Mohd Salim Mir
- Dr. Zahoor Ahmad Shah
- \*Prof. R.H. Kanth (DEE)
- Dr. Parmeet Singh
- Dr. Bilal Ahmad Bhat
- Dr. Ejaz Ahmad Dar
- Dr. Baby Summuna
- Dr. Danishta Aziz
- Dr. Zakir Amin
- Dr. Dawood Yousuf

\* KVK Baramulla \*\* ICAR-ATARI, Ludhiana





# 22

## Rainfall-Responsive Soil Erosion Detection Device



KVK Fazilka, ICAR-CIPHET, Ludhiana, Pb.

The Rainfall-Responsive Soil Erosion Detection Device is a rugged, field-oriented system designed to detect early soil erosion risks. It combines atmospheric sensing for rainfall and wind exposure with ground-penetrating probes for soil moisture, compaction and subsurface movement. Embedded sensors, a microcontroller and wireless communication process field data and provide real-time alerts. The device supports preventive action, sustainable farming, watershed management and long-term soil productivity.



**Certificate Type**  
Registration of Design

**Design No.**  
487572-001

**Date of Registration**  
17.01.2026

**Class**  
10-05

**Application**  
Soil Erosion Monitoring & Early Warning

### KEY COMPONENTS & FEATURES

#### ATMOSPHERIC SENSING MODULE

Monitors rainfall and wind exposure linked to erosion risk.

#### GROUND-PENETRATING PROBES

Measure soil moisture, compaction and subsurface movement.

#### EMBEDDED SENSORS & MICRO CONTROLLER

Processes soil and environmental data for erosion assessment.

#### WIRELESS ALERTS & LOCAL DISPLAY

Provides real-time information for timely preventive action.

### INVENTORS

1. \*Dr. Parkash C. Gujrar
2. Dr. Ramkishan Meena
3. \*Harender Singh Dahiya
4. Dr. Mool Chand Jain
5. \*Dr. Ramesh C. Kantwa
6. Dr. Mahesh K. Samota
7. Raja Ram Bunker
8. \*Dr. Arvind K. Ahlawat

\* KVK Fazilka



### INNOVATION IMPACT

- Enables early erosion detection through real-time soil and weather monitoring, supporting timely prevention and sustainable land management.

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23

## Micro-Controller-Operated Sanitizing & Disinfecting Spray Machine



KVK Tehri Garhwal, VCSGUUH&F, Bharsar, UK

The Micro-Controller-Operated Sanitizing and Disinfecting Spray Machine is a poly-tunnel-based system designed for rapid and controlled sanitization. It uses an automated micro-controller to detect individuals or objects entering the tunnel. A precise mist of disinfectant is released automatically, enabling contactless and uniform sanitization. The design was particularly useful during the COVID-19 pandemic for reducing the risk of viral transmission in public spaces



### INNOVATION IMPACT

- Supports rapid, controlled and contactless sanitization, helping improve hygiene and reduce transmission risk in public and institutional spaces.

Certificate Type  
Registration of Design

Design No.  
421950-001

Date of Registration  
02.07.2024

Class  
23-01

Application  
Poly-tunnel Automatic Sanitation

### KEY COMPONENTS & FEATURES

#### AUTOMATED DETECTION

Micro-controller detects entry and triggers spraying.

#### CONTROLLED DISINFECTANT MIST

Releases a precise mist for effective coverage.

#### CONTACTLESS OPERATION

Minimizes manual intervention during sanitization.

#### RAPID & UNIFORM SANITIZATION

Supports quick, consistent decontamination of entry points.

### INVENTORS

- Dr. Deepak K. Yaduvanshi
- \*Dr. Sachin Kumar
- Dr. Salman Khan
- Mr. Tsegay T. Tegegne
- Dr. Jameel Ahamad
- Dr. Suraj Malik
- Dr. Kaish Miyan
- Dr. Manoj Kumar Sharma
- Dr. Wajih Jamal
- Dr. Farah Bano
- Dr. Ankit

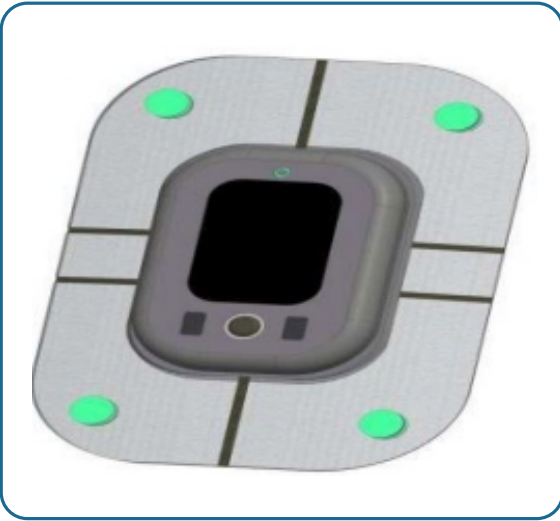
\* KVK Tehri Garhwal



# 24 GLUCOSE STABILIZING PATCH USING BERBERIS EXTRACT

KVK Srinagar, SKUAST-K Srinagar, J&K

The Glucose Stabilizing Patch Using Berberis Extract is a wearable patch design incorporating Berberis-derived plant extract for potential glucose-management applications. The innovation combines traditional plant-based resources with a convenient, compact, and user-friendly patch format. Its lightweight design is intended to facilitate portability and ease of application, while exploring sustainable approaches to health-oriented product development. The registered design represents an effort to integrate botanical ingredients with modern wearable technology.



| Certificate Type<br>Registration of Design | Design No.<br>431256-001 | Date of Registration<br>22.09.2024 | Class<br>24-01 | Application<br>Glucose-Management Patch |
|--------------------------------------------|--------------------------|------------------------------------|----------------|-----------------------------------------|
|--------------------------------------------|--------------------------|------------------------------------|----------------|-----------------------------------------|

## KEY COMPONENTS & FEATURES

- BERBERIS EXTRACT BASIS**  
Uses Berberis extract as the plant-derived design element.
- PATCH-BASED FORMAT**  
Provides a compact, wearable form for convenient application.
- GLUCOSE-MANAGEMENT FOCUS**  
Designed for potential glucose-stabilizing applications.
- PORTABLE & USER-FRIENDLY**  
Compact format intended to support convenient use.

## INVENTORS

1. \*Showkat Ahmad Dar
2. Syed Naseem Zaffar
3. Mir Muskan Un Nisa
4. Aasima Rafiq
5. Wajid Hasan
6. Dev Karan Bairwa
7. Yendrebam K. Devi
8. Ammar AL-Farga
9. Ayah T. Zaidalkilani
10. Umer Bin Farook
11. Rayees Ahmad Wani

\* KVK Srinagar

**INNOVATION IMPACT**

- Demonstrates integration of a plant-derived extract with a convenient patch format, highlighting innovation in portable, plant-based glucose-management concepts.





# 25

## IN-ROW NOZZLE ADJUSTABLE SPRAYER



Sher-E-Kashmir University of Agricultural Sciences & Technology, Kashmir, J&K

The In-Row Nozzle Adjustable Sprayer is a precision spraying system designed for efficient and uniform application of pesticides, nutrients and foliar treatments in row crops. Its mechanically adjustable nozzles allow rapid adjustment of spray position and orientation according to crop geometry and growth stage. The design enables precise in-row targeting while reducing spray overlap, drift and chemical wastage. Field evaluations indicated lower chemical consumption and spray drift while maintaining effective coverage.



### INNOVATION IMPACT

- Promotes precise, resource-efficient spraying by reducing chemical use, spray drift and wastage while maintaining effective crop coverage.

| Certificate Type       | Design No. | Date of Registration | Class | Application                                        |
|------------------------|------------|----------------------|-------|----------------------------------------------------|
| Registration of Design | 424036-001 | 20.07.2024           | 15-03 | Row crops / orchards / protected cultivation spray |

### KEY COMPONENTS & FEATURES

#### ADJUSTABLE NOZZLE ASSEMBLY

Enables quick positioning and orientation of spray nozzles.

#### PRECISION IN-ROW TARGETING

Matches spray delivery to crop geometry and growth stage.

#### UNIFORM APPLICATION

Improves spray coverage while reducing overlap.

#### REDUCED DRIFT & WASTAGE

Helps lower chemical consumption and spray drift.

### INVENTORS

- Sher-e-Kashmir University of Agricultural Sciences and Technology
- Prof. Parmjeet Singh
- Er. Riyaz Ashraf
- \*Prof. Raihana H. Kanth (DEE)
- Dr. Moneesa Bashir
- Er. Shoaib Amin

\*Sher-E-Kashmir University of Agricultural Sciences & Technology, Kashmir





## 26 BEE NESTING HABITAT



KVK Srinagar, SKUAST-K Srinagar, J&K

The Bee Nesting Habitat is a registered design intended to provide a dedicated nesting space for bees. It supports pollinator conservation by creating a suitable habitat structure in agricultural and surrounding environments. The design can encourage bee presence and strengthen pollination services, contributing to biodiversity and pollinator-friendly farming. It represents a practical approach to supporting sustainable agricultural ecosystems.



| Certificate Type       | Design No. | Date of Registration | Class | Application   |
|------------------------|------------|----------------------|-------|---------------|
| Registration of Design | 496041-001 | 25/03/2026           | 30-02 | Nest for bees |

### KEY COMPONENTS & FEATURES

#### DEDICATED BEE HABITAT

Provides a dedicated habitat for bees and supports their conservation.

#### POLLINATOR CONSERVATION

Supports the conservation and protection of important pollinators.

#### BEE-FRIENDLY ENVIRONMENT

Encourages the development of bee-friendly environments.

#### AGRICULTURAL POLLINATION

Supports effective pollination and contributes to improved agricultural productivity.

### INNOVATION IMPACT

- The design provides a simple bee habitat that supports pollinator conservation, biodiversity, sustainable farming, and pollinator-friendly agricultural landscapes.

### INVENTORS

1. Dr. Showket Ahmad Dar
2. Dr. Gurindapalli A.D. Grace
3. Vinay Singh
4. Gh. Mohu-Ud-Din Dar
5. Aamir Rashid Wani

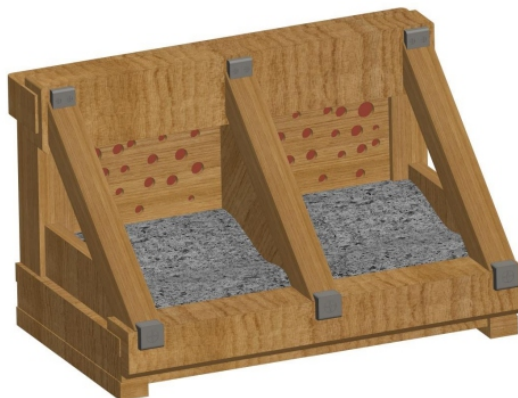
\* KVK Srinagar



## 27 NESTING UNIT FOR BEE RESTORATION

**KVK Srinagar, SKUAST-K Srinagar, J&K**

The Nesting Unit for Bee Restoration is a registered design under Class 30-06 intended to provide a dedicated structure for bee nesting. It supports bee restoration by creating a suitable habitat for pollinators in agricultural and surrounding environments. The design offers a practical approach to encouraging bee presence and strengthening pollinator-friendly landscapes. Its registration provides formal intellectual property recognition for the distinctive design.



### INNOVATION IMPACT

- The registered design features a distinctive capsule form for growth-promoting applications, strengthening intellectual property recognition and design identity.

| Certificate Type       | Design No. | Date of Registration | Class | Application          |
|------------------------|------------|----------------------|-------|----------------------|
| Registration of Design | 495474-001 | 20/03/2026           | 30-06 | Bee restoration unit |

### KEY COMPONENTS & FEATURES

#### DEDICATED NESTING UNIT

Provides a dedicated nesting unit for bees.

#### BEE RESTORATION

Supports bee restoration and conservation.

#### POLLINATOR-FRIENDLY HABITAT

Promotes habitats that support pollinators.

#### AGRICULTURAL APPLICATION

Useful for supporting pollination in agricultural environments.

### INVENTORS

- \*Showket Ahmad Dar**
- Yasodha Panel
- Ishtiyag Ahad
- Gh. Mohu-Ud-Din Dar
- Jahangir Ahmad Baba
- Baby Summuna
- Haseeb-Ur Rehman
- Saima Pual
- Sohail Ahmad Wagay
- Oyais Ahmad Wagay
- Syed Naseem Geelani
- \*Shamim A. Simnani**

\* KVK Srinagar



28

## HYBRID ENERGY IoT BIOCHAR PYROLYZER

**Sher-E-Kashmir University of Agricultural Sciences & Technology, Kashmir, J&K**

The Hybrid Energy IoT Biochar Pyrolyzer converts agricultural residues and biomass waste into biochar through controlled pyrolysis using hybrid renewable energy. IoT-enabled sensors and remote monitoring continuously track key operating parameters such as temperature and heating rate. An integrated thermal camera provides real-time visibility of biomass conversion inside the pyrolysis chamber. The system supports efficient waste utilization, lower emissions and circular, climate-smart agriculture.



**Certificate  
Type**  
Registration  
of Design

**Design  
No.**  
495566-001

**Date of  
Registration**  
20.03.2026

**Class**  
23-03

**Application**  
Biomass  
waste/biochar  
production

### KEY COMPONENTS & FEATURES

#### CONTROLLED PYROLYSIS CHAMBER

Converts biomass residues into biochar under controlled heating.

#### HYBRID RENEWABLE ENERGY

Supports energy-efficient and eco-friendly operation.

#### IoT SENSORS & REMOTE MONITORING

Tracks temperature, heating rate and pyrolysis progress.

#### THERMAL CAMERA & SMART CONTROL

Provides real-time chamber visibility and process assessment.

### INVENTORS

1. Mr. Sheikh Amjid
2. Dr. Subhash Chand
3. Dr. Shabir Ahmad Bangroo
4. Dr. Shoukat Ara
5. Dr. Bhagyashree Dhekale
6. Dr. Bilal Ahmad Padder
7. Dr. Muzaffar Ahmad Malik
8. \*Dr. R. H. Kanth (DEE)
9. Dr. Mohammad Iqbal Bhat

\*Sher-E-Kashmir University of Agricultural Sciences & Technology, Kashmir



### INNOVATION IMPACT

- Converts agricultural waste into useful biochar while enabling smart, energy-efficient processing, supporting waste reduction, lower emissions and sustainable farming.

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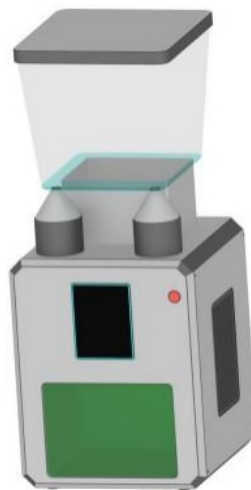
# 29

## MICROBIAL COMPOSTING IoT BASED DEVICE



KVK Reasi, SKUAST-J, Jammu, J&K

The Microbial Composting IoT Based Device is an advanced tool designed to accelerate decomposition of agricultural and organic waste into nutrient-rich compost. It combines beneficial microorganisms, controlled composting conditions, sensors and Internet of Things (IoT) technology. The device optimizes microbial activity by regulating important parameters such as aeration and moisture. This supports efficient organic-waste management and improved compost production.



| Certificate Type       | Design No. | Date of Registration | Class | Application                |
|------------------------|------------|----------------------|-------|----------------------------|
| Registration of Design | 469919-001 | 16.08.2026           | 19-09 | Organic waste / composting |

### KEY COMPONENTS & FEATURES

#### MICROBIAL DECOMPOSITION SYSTEM

Uses beneficial microorganisms to accelerate waste decomposition.

#### IoT-BASED MONITORING

Uses sensors and IoT technology for process monitoring.

#### MOISTURE & AERATION CONTROL

Regulates key conditions to optimize microbial activity.

#### NUTRIENT-RICH COMPOST PRODUCTION

Supports efficient conversion of organic waste into useful compost.

### INNOVATION IMPACT

- Accelerates organic-waste decomposition through smart monitoring and controlled composting, supporting efficient waste management and nutrient-rich compost production.

### INVENTORS

- Dr. Arshdeep Kour
- Dr. Asif Ali
- \*Dr. Banarsi Lal
- Dr. Shahid Ahamad

\* KVK Reasi

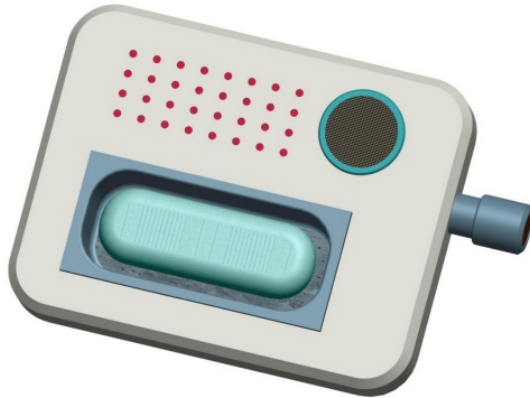




## 30 SALICYLIC ACID CAPSULE FOR APHID MANAGEMENT

**KVK Pulwama, SKUAST-K Srinagar, J&K**  
**KVK Srinagar, SKUAST-K Srinagar, J&K**

The Salicylic Acid Capsule for Aphid Management is an innovative capsule-based design for crop protection and aphid management. It offers a compact and convenient format for targeted delivery of salicylic-acid-based treatment. The design supports easy handling, application, and portability, with potential integration into sustainable pest-management strategies. It may help reduce dependence on conventional pesticides while promoting environmentally responsible crop protection practices.



| Certificate Type       | Design No. | Date of Registration | Class | Application      |
|------------------------|------------|----------------------|-------|------------------|
| Registration of Design | 483943-001 | 16.12.2025           | 28-01 | Aphid Management |

### KEY COMPONENTS & FEATURES

#### SALICYLIC ACID CAPSULE

Capsule-based design for aphid-management applications.

#### TARGETED DELIVERY FORMAT

Practical format for controlled placement or delivery.

#### COMPACT & CONVENIENT

Designed for easy handling and application.

#### IPM-ORIENTED APPROACH

Supports integrated crop-protection strategies.



### INNOVATION IMPACT

- Highlights a practical capsule-based approach for aphid management, with potential to support targeted crop protection and integrated pest management.

### INVENTORS

1. Dr. Oyais Ahmad Wagay
2. \*Prof. Javeed A. Mugloo
3. Dr. Nazir Ahmad Pala
4. Prof. Barkat Hussain
5. Dr. Gowhar Nabi Parrray
6. Dr. Jauhar Rafeeq
7. \*\*Dr. Showket A. Dar

\*KVK Pulwama \*\*KVK Srinagar

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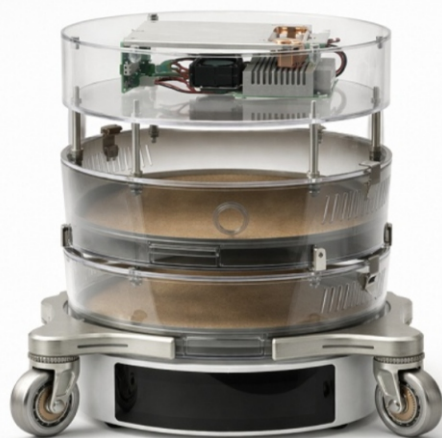
# 31

## INSECT REARING CHAMBER



**KVK Tehri Garhwal, VCSGUUH&F, Bharsar, UK**

An Insect Rearing Chamber is a specialized environmental enclosure designed to breed, rear, and maintain insects under precisely controlled conditions. It regulates essential parameters, including temperature, humidity, ventilation, and light cycles, to support healthy growth and development. The chamber facilitates life-cycle studies, agricultural research, pest management, biological control, and ecological testing, while ensuring consistent, reliable, and reproducible conditions for laboratory and scientific experiments and research applications.



| Certificate Type       | Design No. | Date of Registration | Class | Certificate SI.No. |
|------------------------|------------|----------------------|-------|--------------------|
| Registration of Design | 502915-001 | 21/05/2026           | 30-02 | 242485             |

### KEY COMPONENTS & FEATURES

#### CONTROLLED ENVIRONMENT

Maintains precisely controlled environmental conditions.

#### TEMPERATURE & HUMIDITY REGULATION

Regulates temperature and humidity for optimal insect growth.

#### INSECT LIFE-CYCLE STUDIES

Supports detailed observation and study of insect life cycles.

#### PEST MANAGEMENT RESEARCH

Useful for developing and evaluating pest management strategies.

#### RELIABLE EXPERIMENTS

Ensures consistent, reliable, and reproducible experimental results.



### INNOVATION IMPACT

- The device supports insect capture and evidence-based assessment of pesticide and biological control efficacy.

### INVENTORS

- \*Dr. Sachin Kumar**
- Dr. Vikas Singh Sengar

\* KVK Tehri Garhwal



## 32 FOLDABLE ORCHARD LADDER



KVK Anantnag, SKUAST-K, Srinagar, J&K

The Foldable Orchard Ladder is a farmer-friendly horticultural implement developed to facilitate safer and easier pruning, thinning, spraying, training and fruit harvesting operations in orchards. Its foldable structure allows convenient handling, transportation and compact storage, particularly in areas with limited space. The ladder is suitable for high-density, sloping, hilly and terraced orchards, offering improved stability and accessibility. It may reduce operator fatigue, drudgery and labour requirements while enhancing work efficiency and safety.



|                                                   |                                 |                                           |                       |                                                             |
|---------------------------------------------------|---------------------------------|-------------------------------------------|-----------------------|-------------------------------------------------------------|
| <b>Certificate Type</b><br>Registration of Design | <b>Design No.</b><br>431259-001 | <b>Date of Registration</b><br>22.09.2024 | <b>Class</b><br>25-03 | <b>Application</b><br>Orchard operations /hill horticulture |
|---------------------------------------------------|---------------------------------|-------------------------------------------|-----------------------|-------------------------------------------------------------|

### KEY COMPONENTS & FEATURES

#### FOLDABLE / COLLAPSIBLE STRUCTURE

Easy storage and transport across orchard terrain.

#### STABLE ORCHARD SUPPORT

Improves operator stability and safety.

#### PORTABLE FARMER-FRIENDLY DESIGN

Supports pruning, thinning, spraying and harvesting.

#### HILL-ORCHARD ADAPTABILITY

Suitable for uneven, sloped and terraced areas.

### INVENTORS

1. \*Dr. Ishtiyag Ahmad Khan
2. Mushtaq Ahmad Dar
3. Dr. Shabeer A. Ganaie
4. Dr. Umer Bin Farook
5. Dr. Suheel Ahmad Ganai

\* KVK Anantnag



### INNOVATION IMPACT

- Improves safety and mobility in orchard operations while reducing drudgery and labour needs, particularly in uneven and hilly fruit-growing areas.

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## 33 DIFFUSER-JUNIPERUS AROMA CUBE



**KVK Bandipora-II, SKUAST-K  
Srinagar, J&K  
KVK Srinagar, SKUAST-K, Srinagar, J&K**

The DIFFUSER is a functional and decorative aroma diffuser crafted from sustainably sourced Himalayan Juniper wood from Gurez Valley, Jammu and Kashmir. Its minimalist geometric cube features natural wood texture and laser-engraved Dardic motifs inspired by local cultural heritage. The diffuser releases juniper's characteristic aroma while enhancing indoor spaces. It combines sustainable materials, indigenous ornamentation, natural air-purifying qualities, and contemporary minimalist design.



### INNOVATION IMPACT

- Combines sustainable juniper wood, cultural motifs, and natural aroma diffusion in an eco-conscious, heritage-inspired decorative product.

| Certificate Type       | Design No. | Date of Registration | Class | Application                      |
|------------------------|------------|----------------------|-------|----------------------------------|
| Registration of Design | 483571-00  | 12.12.2025           | 28-05 | Aroma diffusion / decorative use |

### KEY COMPONENTS & FEATURES

#### JUNIPERUS WOOD MATERIAL

Uses sustainably sourced Himalayan Juniper wood from Gurez Valley.

#### MINIMALIST GEOMETRIC FORM

Combines compact cube form with natural woody texture.

#### LASER-ENGRAVED DARDIC MOTIFS

Incorporates geometric motifs inspired by local cultural heritage.

#### AROMA-DIFFUSING FUNCTION

Releases characteristic juniper aroma as a decorative artefact.

### INVENTORS

1. \*Dr. Jauhar Rafeeq
2. \*Dr. Hilal Ahmad Malik
3. Dr. Shahida Altaf
4. Manzoor Ahmad Khtana
5. Ravi Kumar
6. Sadaf Fayaz
7. Dr. Oyais Ahmad Wagay
8. \*\*Dr. Showket A. Dar

\* KVK Bandipora-II \*\* KVK Srinagar





## 34 GROWTH PROMOTING CAPSULE

**KVK Srinagar, SKUAST-K, Srinagar, J&K**

The Growth Promoting Capsule is a registered design under Class 28-01, officially recorded as "GROWTH PROMOTING CAPSULE." The certificate formally recognizes its distinctive visual configuration and product-oriented design. Developed for growth-promoting applications, the capsule represents a functional and purpose-specific innovation. Its registration provides formal intellectual property protection, safeguarding the unique appearance, configuration, and design features associated with the product.



|                                                   |                                 |                                           |                       |
|---------------------------------------------------|---------------------------------|-------------------------------------------|-----------------------|
| <b>Certificate Type</b><br>Registration of Design | <b>Design No.</b><br>496646-001 | <b>Date of Registration</b><br>30/03/2026 | <b>Class</b><br>28-01 |
|---------------------------------------------------|---------------------------------|-------------------------------------------|-----------------------|

### KEY COMPONENTS & FEATURES

#### GROWTH-PROMOTING CAPSULE DESIGN

Registered under Class 28-01.

#### DISTINCTIVE PRODUCT-ORIENTED DESIGN

Provides a unique and functional product configuration.

#### FORMAL DESIGN REGISTRATION

Officially registered to establish design ownership.

#### INTELLECTUAL PROPERTY PROTECTION

Protects the innovative design from unauthorized use.

### INVENTORS

1. **\*Dr. Showket Ahmad Dar**
2. Vemula Ravi
3. Dr. Gurindapalli A.D. Grace
4. Vinay Singh
5. Gh. Mohu-Ud-Din Dar
6. Aamir Rashid Wani

\* KVK Srinagar



### INNOVATION IMPACT

- The registered design features a distinctive capsule form for growth-promoting applications, strengthening intellectual property recognition and design identity.

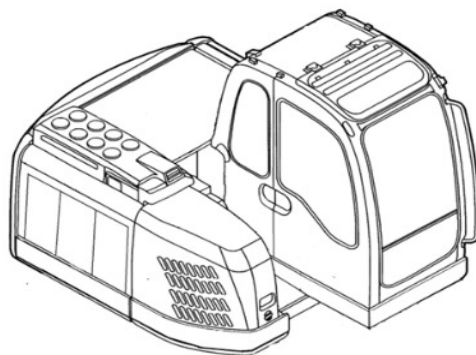
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## 35 AUTOMATED WALNUT GRAFTING MACHINE

**KVK Baramulla, ICAR-CITH Srinagar, J&K**

This machine is a semi-portable device designed to perform precise and repeatable grafting operations for walnut saplings under nursery as well as field conditions. It ensures better accuracy and consistency during grafting, helping to reduce manual effort and operator variability. Its semi-portable design allows easy handling and transportation, making it suitable for different nursery and field applications where efficient and uniform walnut sapling propagation is required.



| Certificate Type       | Design No. | Date of Registration | Class | Application                |
|------------------------|------------|----------------------|-------|----------------------------|
| Registration of Design | 486574-001 | 08.01.2026           | 15-03 | Automatic Grafting Machine |

### KEY COMPONENTS & FEATURES

#### GRAFTING & CUTTING MODULE

Performs accurate and clean cutting for precise grafting.

#### CLAMPING & ALIGNMENT ASSEMBLY

Holds rootstock and scion firmly and aligns them automatically for vascular cambium alignment.

#### CONTROL & PROCESSING UNIT

Coordinates cutting, alignment and joining sequences automatically for consistent results.

#### USER INTERFACE PANEL

Digital interface for easy operation and process monitoring.

#### BINDING & SEALING MODULE

Ensures proper binding and sealing to achieve strong graft union.

### INNOVATION IMPACT

- Enables high-throughput, repeatable and scalable walnut grafting with improved graft success rates.
- Reduces labor cost and supports standardized plant propagation practices in nurseries and field conditions.

### INVENTORS

- \*Dr. Shoiab N. Kirmani
- \*Dr. Wasim H. Raja
- Dr. Javid Iqbal Mir
- \*Dr. Neeraj
- \*Dr. Sajad A. Sheikh.
- Sr. Sajad un Nabi
- \*Dr. Anjali Gairola
- \*\*Dr. Rajesh K Rana

\* KVK Baramulla \*\* ICAR-ATARI, Ludhiana



# 36

## Insect-Pest Capturing and Efficacy Assessment Device



KVK Tehri Garhwal, VCSGUUH&F, Bharsar, UK

An Insect-Pest Capturing and Efficacy Assessment Device is an innovative tool designed to efficiently capture target insect pests and evaluate pest management measures. It enables systematic monitoring of pest populations under field or controlled conditions. The device facilitates accurate assessment of chemical pesticides and biological control agents, allowing researchers and farmers to compare treatment effectiveness, optimize pest management strategies, and support sustainable crop protection.



| Certificate Type       | Design No. | Date of Registration | Class | Certificate Sl.No. |
|------------------------|------------|----------------------|-------|--------------------|
| Registration of Design | 500139-001 | 29/04/2026           | 10-05 | 244888             |

### KEY COMPONENTS & FEATURES

#### INDIGENOUS KNOWLEDGE SYSTEMS

Focuses on preserving and utilizing traditional knowledge for nutraceutical applications.

#### VALUE ADDITION

Converts indigenous practices into value-added nutraceutical products.

#### DOCUMENTED PRACTICES

Provides a structured and documented package of traditional practices.

#### KNOWLEDGE PRESERVATION

Preserves indigenous knowledge in a systematic and usable form.



### INNOVATION IMPACT

- The device enables systematic insect capture, efficacy assessment, and evidence-based evaluation of pesticides and biological controls.

### INVENTORS

- \*Dr. Sachin Kumar
- Dr. Vikas Singh Sengar

\* KVK Tehri Garhwal

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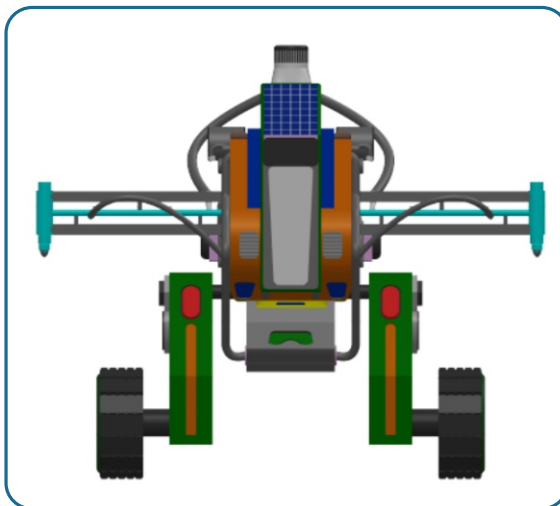




## 37 FRUIT IRRIGATION DEVICE

KVK Srinagar, SKUAST-K, Srinagar, J&K

The Fruit Irrigation Device is a registered design under Class 15-03, specifically intended for irrigation applications in fruit crops. The registered design formally recognizes the device, including its distinctive configuration and visual features, for agricultural use. It represents an innovative approach to improving irrigation practices in fruit cultivation, supporting efficient water application, better resource utilization, and potential enhancement of irrigation management and productivity.



| Certificate Type       | Design No. | Date of Registration | Class | Certificate SI.No. |
|------------------------|------------|----------------------|-------|--------------------|
| Registration of Design | 469518-001 | 12/08/2025           | 15-03 | 214269             |

### KEY COMPONENTS & FEATURES

#### FRUIT-CROP IRRIGATION

Designed specifically for irrigation applications in fruit crops.

#### EFFICIENT WATER APPLICATION

Supports efficient and targeted application of water to fruit crops.

#### AGRICULTURAL APPLICATION

Developed as a device for agricultural irrigation practices.

#### DESIGN REGISTRATION

Registered under Class 15-03 as a recognized industrial design.

#### INNOVATIVE IRRIGATION DEVICE

Provides a recognized design solution for improving irrigation management in fruit cultivation.

### INNOVATION IMPACT

- Registered Fruit Irrigation Device supports efficient fruit-crop irrigation, innovation documentation, field application, and knowledge dissemination.

### INVENTORS

1. Dr. Muzafar Mir
2. Dr. Parshant Bakshi
3. Dr. Kiran Kour
4. Dr. Ajay Gupta
5. Dr. Suja Nabi Qurashi
6. Mr. Saleem Yousuf
7. Mr. Kunal Lakhanpal

\* KVK Poonch





38

## REAL-TIME PEST IDENTIFICATION DEVICE



KVK Tehri Garhwal, VCSGUUH&F, Bharsar, UK

The Real-Time Pest Identification Device is a registered design under Class 15-03. Its registration formally recognizes the innovative design of a device developed for real-time identification and assessment of pests. The device supports timely detection, monitoring, and informed decision-making in crop protection. By enabling rapid pest identification, it can contribute to effective pest management, reduce potential crop losses, and promote technology-based and sustainable agricultural practices.



| Certificate Type       | Design No. | Date of Registration | Class | Certificate Sl.No. |
|------------------------|------------|----------------------|-------|--------------------|
| Registration of Design | 460277-001 | 28/05/2025           | 15-03 | 207515             |

### KEY COMPONENTS & FEATURES

#### INDIGENOUS KNOWLEDGE SYSTEMS

Preserves and utilizes traditional knowledge for nutraceutical applications.

#### VALUE ADDITION

Transforms indigenous practices into value-added nutraceutical products.

#### DOCUMENTED PRACTICES

Provides a structured and documented repository of traditional practices.

#### KNOWLEDGE PRESERVATION

Preserves indigenous knowledge in a systematic, accessible, and usable form.

### INVENTORS

1. Dr. Arati Ningombam
2. Dr. H. Vanlalhmulliana
3. Mrs. C. Rachael
4. Dr. Samik Chowdhury
5. Dr. Sushma Deb
6. Dr. Aruna Beemrote
7. Dr. Rajen Chowdhury
8. Shubhendu K. Behera
9. Dr. Ravindra P.S. Jetawat
10. Dr. Bendangla Imsong
11. Dr. Sunil Kumar
12. Dr. Aalok G. Yewale

\* KVK Tehri Garhwal



### INNOVATION IMPACT

- The design enables rapid pest identification, supporting timely crop protection decisions and agricultural innovation recognition.

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39



KVK Reasi, SKUAST-J, Jammu, J&K

A comprehensive literary work documenting indigenous knowledge, traditional processing methods, preparation techniques, and value-addition practices for nutraceutical products. It promotes knowledge preservation, sustainable utilization of local resources, product diversification, and innovative product development. The documented information provides a valuable foundation for future research, development, commercialization, and effective utilization of indigenous nutraceutical resources.

#### OWNERS

SKUAST-J, Jammu and DST, GoI

Application No.  
LD-26827/  
2025-CO

Date of  
Filing  
05/07/2025

Date of  
ROC  
07/10/2025

Language  
English

Work Type  
Literary Work

#### KEY COMPONENTS & FEATURES

##### INDIGENOUS KNOWLEDGE SYSTEMS

Focuses on knowledge-based practices for nutraceutical value addition.

##### VALUE ADDITION

Addresses conversion of knowledge and practices into value-added nutraceutical products.

##### DOCUMENTED PRACTICES

Presents a structured package of practices in literary form.

Copyright Office, Government of India  
Copyright Certificate  
Application No. LD-26827/2025-CO  
Date of Filing: 05/07/2025  
Date of ROC: 07/10/2025

| Sl. No. | Name                    | Address                                                                                                       |
|---------|-------------------------|---------------------------------------------------------------------------------------------------------------|
| 1       | DR. ANIL BHAT           | SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY OF JAMMU, MAIN CAMPUS, CHATHA, JAMMU-180009 |
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| 3       | DR. JULIE DOGRA BANDRAL | SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY OF JAMMU, MAIN CAMPUS, CHATHA, JAMMU-180009 |

Owner: N.A.  
Language: English  
Description: Literary Work  
No Objection Letters from the Authors are enclosed.

| Sl. No. | Name               | Address                                                                                                       |
|---------|--------------------|---------------------------------------------------------------------------------------------------------------|
| 4       | MR. ROHIT KUMAR    | SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY OF JAMMU, MAIN CAMPUS, CHATHA, JAMMU-180009 |
| 5       | DR. AKSHAY DEEP    | SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY OF JAMMU, MAIN CAMPUS, CHATHA, JAMMU-180009 |
| 6       | DR. ANKIT MAGOTRA  | SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY OF JAMMU, MAIN CAMPUS, CHATHA, JAMMU-180009 |
| 7       | DR. BANARSHI LAL   | SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY OF JAMMU, MAIN CAMPUS, CHATHA, JAMMU-180009 |
| 8       | DR. RAKESH SHARMA  | SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY OF JAMMU, MAIN CAMPUS, CHATHA, JAMMU-180009 |
| 9       | DR. MANINDER SINGH | SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES AND TECHNOLOGY OF JAMMU, MAIN CAMPUS, CHATHA, JAMMU-180009 |

Date of ROC: 07/10/2025

#### INVENTORS

☆ Dr. Anil Bhat ☆ Dr. Sushil K. Gupta ☆ Dr. Julie D. Bandral ☆ Mr. Rohit Kumar ☆ Dr. Akshay Deep ☆ Dr. Ankit Magotra  
☆ \*Dr. Banarshi Lal ☆ Dr. Rakesh Sharma ☆ Dr. Maninder Singh

\* KVK Reasi



## 40



**Work Type**  
Artistic Work  
Design/Model







हर कदम, हर उगर  
किसानों का हमसफर  
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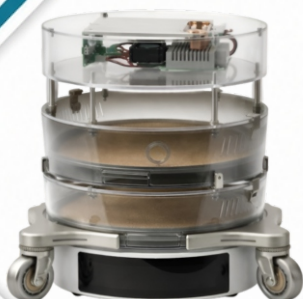
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