



Use of Bio repellents ‘A Passive Control’ – Wildlife Hazard Management

DATE 14 12 2023 | VENUE: TAJ BANGALORE, WBA

About US



PROFILE

- Gen Agritech is a start-up in the field of Agricultural Bio Technology, accredited by Ministry of Commerce and Industry, Government of India.

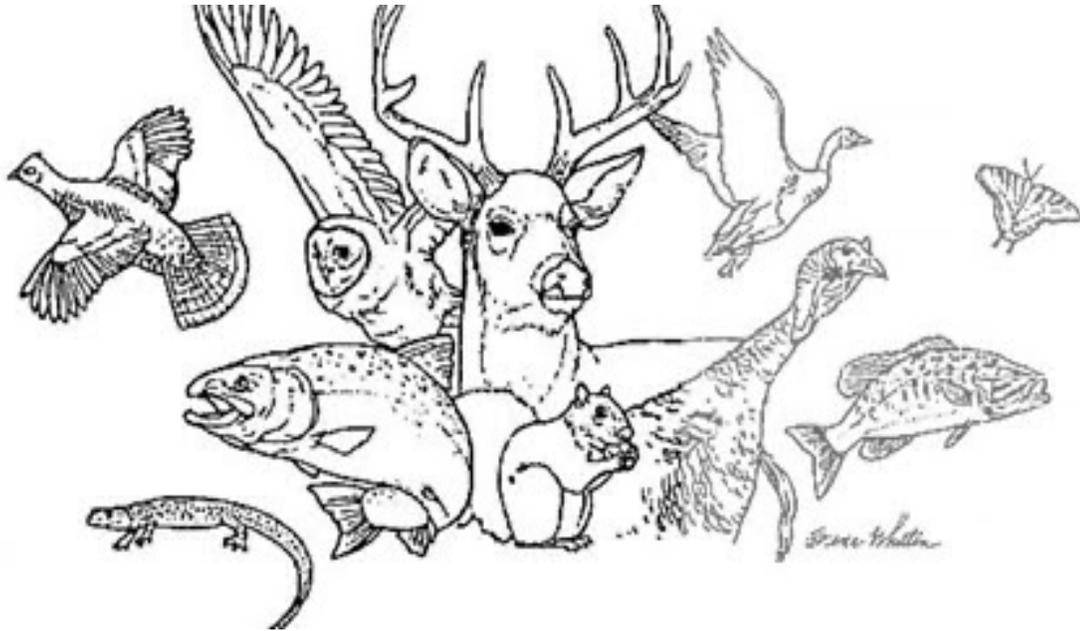
BUSINESS PHILOSOPHY

- Gen Agritech products are user friendly, being non-toxic and economical, soil friendly, being chemical free and environmental friendly, being non pollutive to air, soil and water.

PRODUCTS

- Gen range of products, in particular BirdX[®], Farm Secure[™], UV Dye[™], Dhasmart[®], Biorepel[™] are natural repellents.

Our Approach



Wild Life Management

◆ Schedule III of the
Wildlife Protection Act of 1972, India



Mother Earth

Birds – Occupants of airspace

- There are about 11000 species of birds across globe
- 40 % of them are airspace occupant by migration
- Remaining 60% of them are mixture of low flying birds and ground birds
- Bird strike statics shows > 94% of the Birdstrike occurs within the aerodrome (ICAO statics)
- The species combo would be differing from airport to airport
- Little we could do to control the migration birds however we can do much to avoid ground birds if we clearly look into their behavior instincts

Compliance First



GOVERNMENT OF INDIA
OFFICE OF DIRECTOR GENERAL OF CIVIL AVIATION

AD AC NO. 6 of 2017
04 AUGUST 2017

AERODROME ADVISORY CIRCULAR

Subject: Guidance on Wildlife Hazard Management

1. INTRODUCTION

- 1.1. The presence of wildlife (birds and animals) on and in the vicinity of an aerodrome poses a serious threat to aircraft operational safety. Operators of licensed aerodromes are required to take the necessary actions to identify, manage and mitigate the risk to aircraft operations posed by wildlife by adopting measures likely to minimize the risk of collisions between wildlife and aircraft, to as low as reasonably practicable.
- 1.2. This circular lays down the general guidelines for establishment of wildlife management plan at an aerodrome. The principles in this document are coherent with the wildlife strike hazard reduction requirement of CAR Section 4 Series B Part I para 9.4
- 1.3. The purpose of this manual is to provide airport operator with the information necessary to develop and implement an effective bird/wildlife control setup for their aerodrome. This manual outlines organizational structures that will effectively deal with the problem of bird/wildlife control. ICAO Airport Services Manual Part 3 (Doc 9137) may also be referred for detailed guidelines. Detailed procedure related to these guidelines are required to be included in aerodrome manual

- 1.4. It is important to note that this circular on its own does not change, create, amend or permit deviations from regulatory requirements nor does it establish minimum standards.

2. ORGANIZATION SETUP WITH IN AERODROMES

- 2.1. Depending on the scale of the aerodrome (proportionate to the size, traffic and complexity), some of the functions underneath can be combined, except for the

- f) Repellents are substances that animals may find unpleasant due to their taste, smell or touch.
- g) Green laser beam guns seem to be effective to chase water birds away from the water surfaces at the airport.

4.4. LETHAL METHODS

- 4.4.1. If there is no other satisfactory course of action for preserving air safety, lethal methods can be employed subject to strict adherence to the wildlife and security regulations in vogue and required permissions thereto.

5. WILDLIFE STRIKE REPORTING AND RECORD KEEPING

- 5.1. Most wildlife occurrences can be defined in the following categories:

- a) Confirmed strikes:
 - i. any reported collision between bird or other wildlife and an aircraft for which evidence in the form of a carcass (or other remains) are found on the ground, or damage and/or other evidence is found on the aircraft.
 - ii. found cadavers for which no wildlife strike was reported, but where the cause of death is indisputably a strike.
- b) Unconfirmed strikes:
 - i. reported collisions between a bird or other wildlife and an aircraft for which no physical evidence is found (no damage to the aircraft, no remains, no blood smears.
 - ii. Other significant bird or other wildlife incidents where the presence of wildlife in the air or on the ground resulted in an effect on a flight but where no strike occurred:
 - iii. near miss occurrences;
 - iv. rejected take-off;
 - v. go-around;
 - vi. Wildlife found dead on the aerodrome where there is no obvious link with a collision with an aircraft.

- 5.2. Wildlife strikes will be reported using the Wildlife Strike Reporting Form as promulgated vide DGCA Air Safety Circulars in vogue on the subject.

- 5.3. In the reporting and investigation of wildlife occurrences, special attention should be given to confirmed multiple bird strikes and turbine bird ingestions.

- 5.4. The aerodrome operator ensures that the species of wildlife carcasses can be identified as correct as possible after a wildlife strike by an in-house specialist or external ornithologist.

फारम आरजी - 2
Form RG - 2



भारत सरकार
Government of India
व्यापार चिन्ह रजिस्ट्री
Trade Marks Registry
व्यापार चिन्ह अधिनियम, 1999
Trade Marks Act, 1999

व्यापार चिन्ह के रजिस्ट्रेशन का प्रमाणपत्र, धारा 23 (2), नियम 56 (1)
Certificate of Registration of Trade Mark, Section 23 (2), Rule 56 (1)

व्यापार चिन्ह संख्या / Trade Mark No. 2861743 दिनांक /Date 11/12/2014 ज. संख्या (J.No. 1799

इस प्रमाणित किया जाता है कि जिस प्रकार चिन्ह की समाप्ति इसके साथ संलग्न है, वह नाम से रजिस्ट्रीकृत हो चुका है।
Certified that Trade Mark / a representation is annexed hereto, has been registered in the name(s) of:-
GEN AGRITECH, #303, Cupid Curve Complex, Opp. J.V. Park, Road No.1, Banjara Hills, Hyderabad-500034, Telangana, India., PALADUGU NAGESWARA RAO, PALADUGU SUBBALAKSHMI, Trading as : GEN AGRITECH, Manufacturer and Trader, (Partnership Firm)

In Class 5 Under No. 2861743 as of the date 11 December 2014 in respect of

Preparations for destroying vermin; fungicides, herbicides and pesticides.

BirdX

मेरे दिशा पर आज के मास के वे दिन को इस पर मुद्रा लगायी गई।
Sealed at my direction, this 16th day of October, 2017



व्यापार चिन्ह रजिस्ट्री
Trade Marks Registry MUMBAI



व्यापार चिन्ह रजिस्ट्रार
Registrar of Trademarks

रजिस्ट्रेशन अवधि की समाप्ति से 10 वर्ष के लिए है और तदनुसार यह 10 वर्ष की अवधि के लिए और उसके 10 वर्ष की अवधि के अन्तर्गत पर भी नवीनीकृत किया जा सकता है।
Registration is for 10 years from the date of application and may then be renewed for a period of 10 years and also at the expiration of each period of 10 years.
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This certificate is not for use in legal proceedings or for obtaining Registration abroad.
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Note: Upon any change of ownership of this Trademark, or change in address, of the principal place of business or address for service in India a request should AT ONCE be made to register the change.

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Certifications – Analysis Reports



भाकृअनुप - भारतीय चावल अनुसंधान संस्थान
राजेन्द्रनगर, हैदराबाद - ५०० ०३०, तेलंगणा राज्य

ICAR - INDIAN INSTITUTE OF RICE RESEARCH
(Formerly Directorate of Rice Research)
RAJENDRANAGAR, HYDERABAD - 500 030, TELANGANA STATE, INDIA.



डॉ. वी. रवींद्र बाबू
निदेशक
Dr. V. Ravindra Babu
Director

08th March 2016,
Hyderabad.

TO WHOM SO EVER IT MAY CONCERN

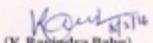
Gen Agritech, Hyderabad based firm developed Biorepel™ liquid and Gel formulations to effectively repels the field rats, bandicoots, wild pigs and boars from the treated location or crop. Gen Agritech approached us for rodent menace and wild boar application at our institute.

At Indian Institute of Rice Research (IIRR), Hyderabad we have wild boar problem and damaging the most our fields that are at various stages of research or testing.

We have tested the Biorepel™ Gel formulation for wild boars and it prevented the wild boar entry nearly 40 days from the time of application.

Biorepel™ is a natural, organic formulation that contains unique blend of natural ingredients like herbal extracts, extracts of Chillies, Pepper, Garlic, Saponins and other stabilizing agents.

The application mechanism was easy and safe to the handling person.


(V. Ravindra Babu)
 Director
 निदेशक/DIRECTOR
 भाकृअनुप-भारतीय चावल अनुसंधान संस्थान
 ICAR-Indian Institute of Rice Research
 राजेन्द्रनगर, हैदराबाद,
 तेलंगणा राज्य-500 030 (Telangana State)

Phone : 040-24591216 (O), Fax : 040-24591217 • E-mail : director.iir@icar.gov.in • website : http://www.icar-iir.org



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PH: +91-040 –67567519, 67567516, Fax: +91-040-67567535
e-mail: eptri.lab@gmail.com; enquiry@eptri.com

ANALYSIS REPORT Page 1 of 2

Registration Number : 194HWC-157 **Issue date** : 11.10.2019
Sample received : 25.09.2019 **Customer ref** : NIL
Date of Commencement : 25.09.2019 **and date** : 17.09.2019
Date of Completion : 10.10.2019
Name & Address of the customer : Dr. P.N. Rao,
 CEO, Gen Agritech,
 Plot No. B-15 & 16,
 Industrial Estate,
 Sanathnagar,
 Hyderabad – 500 018.

Sample Particulars : Bio Product Samples (Pesticide Residue Qualitative Analysis)
Qty-received : ~ 1 Ltr each –in polythene cover
Type of Sampling : Not mentioned
Sample condition : Suitable for analysis. Samples collected and submitted by customer
Sampling Procedure : Samples received in sealed cloth bags
Sample Code :
S-1 : Farm Secure™-Liquid batch No. 00002082019-Batch
 Qty. 500 Ltrs
S-2 : Dashman Batch No. 2092019, Batch Qty. 300 Ltrs
S-3 : Bird X Plus Batch No. 5082019, Batch Qty. 400 Ltrs
S-4 : Bird X™ Batch No. 9092019, Batch Qty. 2000 Ltrs. Date of Mfg.
 : 09.09.19
S-5 : Biorepel™ Batch No. 000025072019, Batch Qty. 1000 Ltrs. Date of
 Mfg. 25.07.19
S-6 : Biorepel™ Gel Batch – No. 000016092019, Batch Qty. 2000 Kg. date
 of Mfg. 16.09.19
Date of Sampling : 02.08.19, 02.09.19, 05.08.19, 09.09.19, 25.07.19, & 16.09.19
Sampled by : Customer
Industry representative : Dr. P.N. Rao, CEO
Sub-Contracting : Sub-contracting was not awarded
Deviation from Standard methods :
Sample Tested : No deviation in the test method
 : As per the APHA-8410B test method
Remarks : NIL


Chief Environmental Scientist



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e-mail: eptri.lab@gmail.com; enquiry@eptri.com

ANALYSIS REPORT Page 2 of 2

Encl. report no.194HWC-157 TEST RESULT

S.No	Test Parameter(s)	Unit	Test Method	Results		
				S-1	S-2	S-3
1	Pesticide Residues -> Organo-chlorine and Organo-phosphorus pesticides	Qualitative analysis	APHA-8410B	ND	ND	ND

S.No	Test Parameter(s)	Unit	Test Method	Results		
				S-4	S-5	S-6
1	Pesticide Residues -> Organo-chlorine and Organo-phosphorus pesticides	Qualitative analysis	APHA-8410B	ND	ND	ND

*ND - Not Detected

NOTE: 1. No Pesticide residues observed.

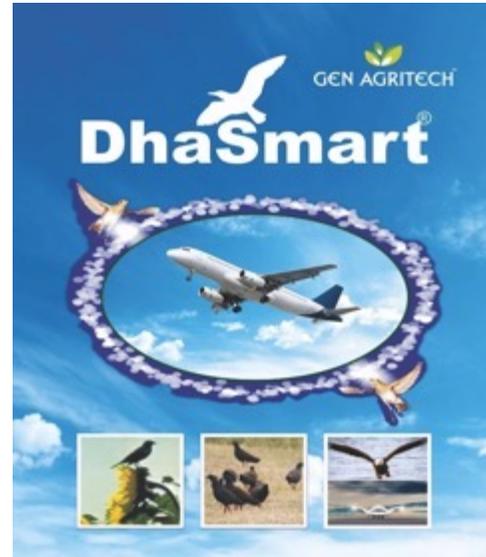

Chief Environmental Scientist

Our Offering : Bio Repellents



BirdX[®]

Liquid Formulation
for **Birds**



DhaSmart[®]

Liquid Formulation
for **Birds**



Biorepel[™]

Gel formulation
for **Wild Boar**.



Farm Secure[™]

Liquid formulation for
Deers, Jackals, Nilgai
(Antelope of Asia)

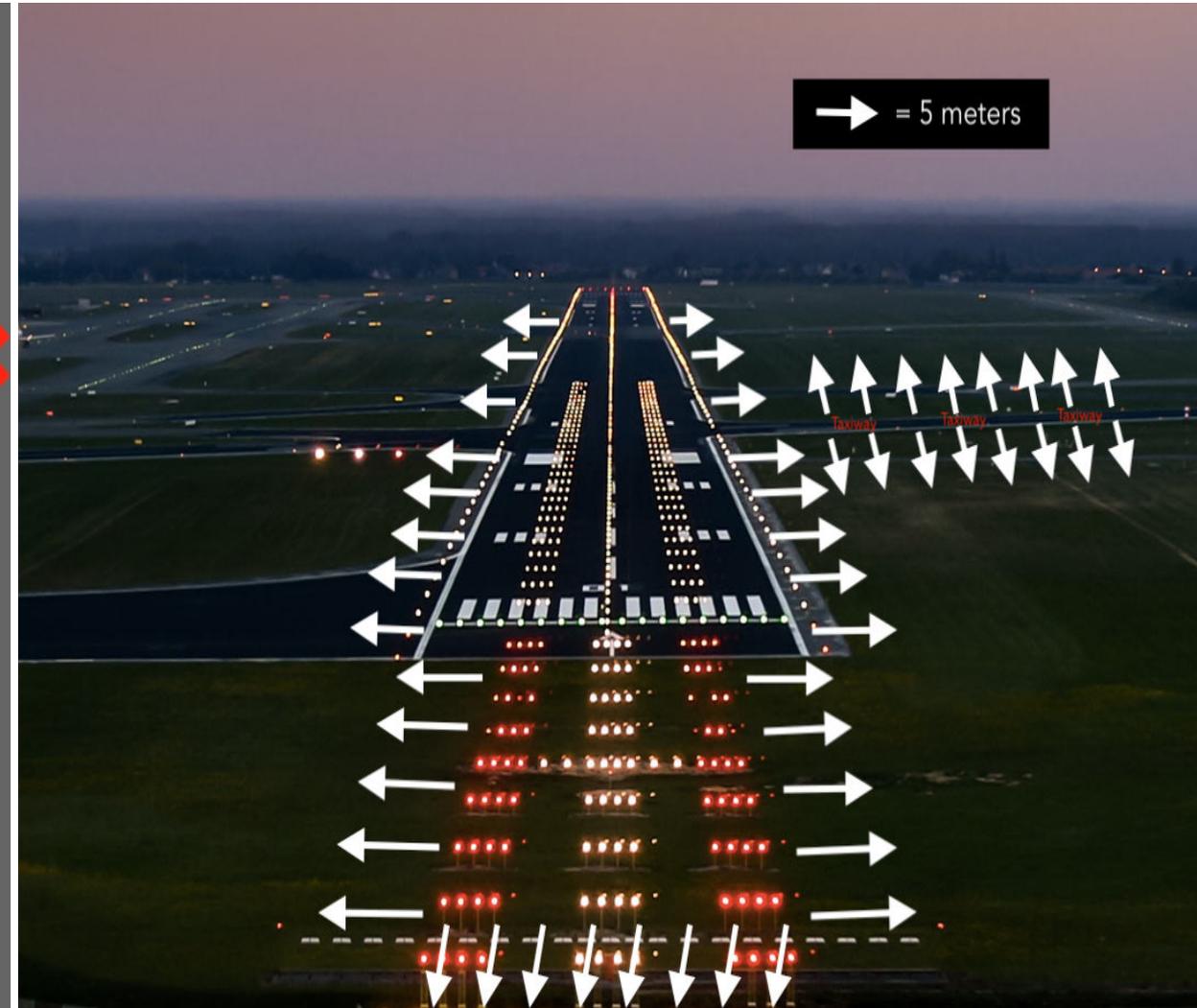
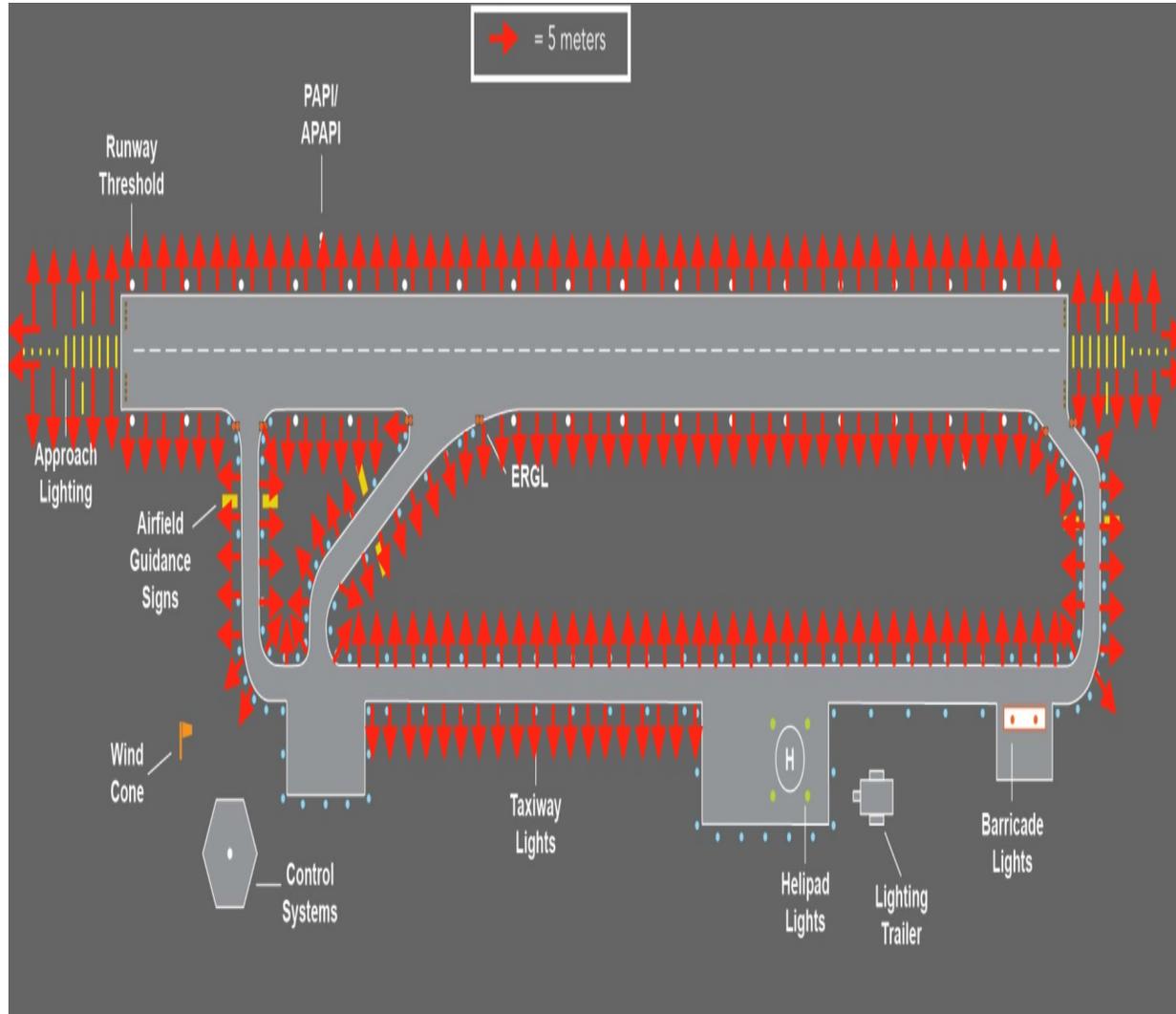
Eco
Friendly

Proven –
Works well

Natural

Cost
effective

Application - BirdX[®]



Methodology of Application



Identify the area of bird attraction

Identify the runway in use

Fix the schedule as per the maintenance slot

Start application on the basic strip of runway from runway in use end

Try to cover the entire stretch i.e., both sides of the runway

Carry out the same application for taxiway also

Case Study Data -



Kempegowda
INTERNATIONAL
AIRPORT
BENGALURU



Lapwing														
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bird log	1975	620	400	348	393	787	1446	5177	2494	5363	4550	5380	6995	3059
BS	0	0	0	0	0	0	0	0	3	0	1	0	0	0

UV Dye®

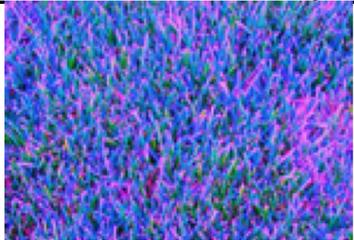
UV Dye is an ultra-violet (UV) dye-invisible to humans, but visible to birds.

UV Dye is a non lethal avian tool that should be mixed with BirdX, teaches birds to avoid treated grass, plants and landscaping.

By Visually Training Birds to associate irritation with an area.

Birds can see ultra violet (UV) light waves (200-400nm) which allows them to see a portion of the light spectrum that is invisible to the human eye. **UV Dye is only visible below 400nm.**



Untreated	Treated with UV Dye
	
Treated turf looks unchanged to the human eye	
Birds see a clear difference in color, giving them a visual cue to 'Stay Away'.	

Dhasmart[®]

Demo @ RGIA, Hyderabad

- Bird Repellent contains natural ingredient and effective dispersal of pest birds in **open spaces**.
- It is formulated for application with **foggers and haze generators**.
- Is ready to use, do not dilute or mix with any other material.
- For best results use 'low' or 'dry' output settings to produce a dry fog or haze with most particles in the 10-20 microns size.





GEN POWER® – MICROBIAL CONSORTIA FOR SOIL HEALTH MANAGEMENT BY DECOMPOSING AGRI.WASTE

Benefits

- Improves soil Organic matter
- Detoxifies chemical residues.
- Induces Phyto-tonic effect and makes the soil healthy

Habitat Management - Products

GENRHIZE

- Genrhize contains Vesicular Arbuscular Mycorrhizae (VAM), which is to enhance plant growth as a result of improved nutrition to the host plant.

Genrhize enhances availability of Phosphorous and to active uptake of micronutrients.

The microbes of Genrhize doesn't allow root pathogenic fungus and also prevents nematode infections.



Habitat Management - Products

NEEMAL

Neem has the property of repelling different kinds of pest on the plants. It is compatible with all kinds of pesticides and fungicides.

Works on Aphids, mealybugs, mites, thrips, scale flies and whiteflies.

Neem oil is generally safe for beneficial insects that do not feed on the plants' leaves, like ladybugs, pollinators, and earthworms.



THANK YOU



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About the Speaker

- Dr. P.N.Rao is a doctorate from Cambridge, UK in the field of Nanotechnology
- Masters in Business Administration from INSEAD, France.
- Masters in Biotechnology from Pondicherry University, India.
- He has rich experience in the Bio/Pharma industry, worked in Capgemini as Senior consultant in UK, France and Germany.
- He has held senior management positions in reputed Pharma companies in India.
- Strong technical and business qualifications with an impressive track record of 23 years of hands-on experience in strategic planning, business unit development, project and product management strategies.
- Holds 18 International patents in Pharma, Bio-pharma & Agribiotech
- Holds 25 trademarks in Pharma and Agribiotech



Dr. P. N. Rao

MD & CEO

BirdX[®] – Demo @ CSIA



BirdX[®] – Demo @ CSIA



Bird Menace in Aviation – India Perspective



LAST YEAR'S TALLY

Sept 21 | IndiGo flight from Kolkata to Bangkok while take off

May 8 | Emirates flight from Dubai to Kolkata while landing

Apr 24 | Air India Delhi-Kolkata flight while landing

Apr 6 | Jet Airways Bengaluru-Kolkata flight while landing



Impact of Birds - US Airways Flight 1549



Product focus – Problem species



Ground birds

Usually look for tranquil area

Away from predators

Away from raptors

Away from other wildlife threats

They look for safe area to settle

Lay eggs

Groom hatchlings

Take away

Return next season

Settle germanely