

PAP - 2022

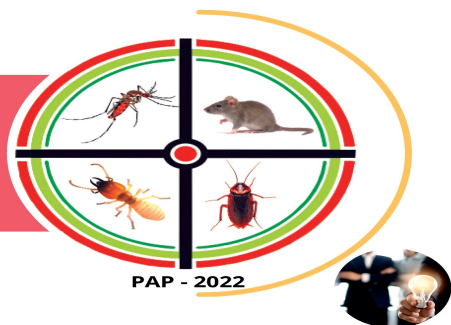


PEST CURE SOLUTIONS AND FUMIGATION

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PEST AWARENESS
PROGRAMME - 2022



PAP - 2022 is program conceived and developed by **Pest Cure Solutions and Fumigation**, Visakhapatnam which envisages the importance of Pest Management through **PEST AWARENESS PROGRAMME-2022**. The main goal of **PAP-2022** is to sensitize the pest born diseases and economical importance among different stakeholders.

This **PAP-2022** program is being introduced in Degree Colleges, particularly for Science Graduates (Chemistry / Botany / Zoology) who can choose a profession in Pest Management Industry.

HOW IS IT USEFUL TO SCIENCE GRADUATES?

After Graduation in Science (Chemistry / Botany / Zoology), students who are willing to take up a career in Pest Management Industry have many opportunities in various Pest Management Organizations as Employees. They can even become Entrepreneurs in this field and generate employment!

Further **Pest Cure Solutions and Fumigation**, Visakhapatnam is offering apprenticeship to the final year Science Graduate students of different colleges in Visakhapatnam and Vizianagaram Districts of Andhra Pradesh as part of our PAP-2022.

HOW IS IT HELPFUL TO PUBLIC?

General Public will be educated about the diseases and damages caused by pests and at the same time can provide the management techniques by preventive and sanitation methods. Also envisages about Professional and licensed Pest Management Agency's importance in Pest control activities.





WHO WE ARE?



We at **Pest Cure Solutions and Fumigation** are **Professionals in Integrated Pest Management Industry** with vast experience in **Commercial, Industrial and Domestic Pest Management**; Sanitization of Domestic and Commercial premises apart from carrying out Fumigation with the **Chemicals Methyl Bromide and Aluminum Phosphide**.

We are a group of dedicated **Pest Management Professionals** with decades of experience. We adopt **innovative, eco friendly** and cost effective Methodologies in all our Treatments. Our team of **well trained qualified** expertise and **Skilled Technicians** carry out **Pest Control Treatments** in a **Professional manner**.

We are accredited by the **Government of India, under the Ministry of Agriculture, Plant Quarantine & Storage** to carry out fumigation of Export/Import commodities with restricted Chemicals and are approved by the **Government of Andhra Pradesh as a Licensed Pest Management Company**. We are also recognized as a **START UP INDIA** company by the **Ministry of Commerce & Industries, Department for Promotion of Industry and Internal Trade, Government of India**. Our Agency is registered as a **MSME** and we are enrolled in **National Small Industries Corporation**.



BRIEF INTRODUCTION ABOUT PEST MANAGEMENT:

WHAT IS PEST? :::::

A pest is an organism which is detrimental to Humans or Human concerns. A household Pest is an annoying and often destructive creature in our houses or domestic places. Pests enter our homes, structures for Shelter, Food, Nesting and Breeding. If household Pests cannot be properly controlled, there's a chance that they can cause significant damage to the property and become a health hazard.

Pests also effect us psychologically
(drive us to depression, anxiety etc.)

HOW DOES PESTS AFFECT US?

SOME OF THE PESTS THAT THREATEN OUR HEALTH BY SPREADING DISEASES:



COCKROACHES



MOSQUITOES



RODENTS



SPIDERS



TICKS



HOUSE FLIES



LIZARD

SOME OF THE PESTS THAT THREATEN OUR PROPERTY:



TERMITES



WOOD BORER



RODENTS &
BANDICOOT



WHY THIS INCREASE IN ::::: URBAN PEST PROBLEMS?



- Urbanization and lack of professionals to tackle it.
- Human dwellings in to their habitats
- Tremendous increase in Urban population
- Improper Sanitation
- Increased Migration/ Travel
- Increased food availability/ improper disposal
- Change in Climate at micro and macro level



Pests enter our homes for Shelter, Food, Nesting and Breeding. If household pests cannot be properly controlled there is every chance that they can cause significant damage to our property and also become a risk to our health.

SOME OF THE DAMAGES CAUSED BY PESTS :



RODENTS:

Does Rodents threaten Humans? The answer is YES! Rodents are nocturnal in habit i.e., active during nights. Some researchers are of the view that around 33 Million Metric Tons of food material is damaged worldwide because of Rodents which is sufficient to feed 180 million people for 12 months.

In India the estimated loss per year is \$25 Billion (2000 statistics). Rodents directly damage poultry industry, concrete structures, cables in aviation, Railways, Hospitals, Hotels and other Public places. They indirectly damage food material, poultry & cattle feed by contamination.



Termites damage the wood in our buildings, clothing, valuable Paper documents/books, currency notes apart from the damage caused to trees, leading to branches falling off. Termites are also known to carry some dangerous diseases such as typhus, gastroenteritis, dysentery, and polio. The faeces of termites are also responsible for asthma and other respiratory diseases

- SOME OF OUR REGULAR PEST MANAGEMENT SERVICES INCLUDE:**

- Sanitization of Residential/Commercial premises & Vehicles
- Termite Control Treatment (with Warrantee as per IS 6313 Standards)
- Wood Borer Control Treatment
- Weed Control in Power Plants
- Rodent, Cockroach & Bed Bugs Control Treatment
- Mosquito, Lizard, Spider & Fly Control Treatment
- Removal of Honey Bee Combs
- Birds Control Treatment to repel Birds
- Snake Control Treatment to repel Snakes
- Integrated Pest Management (under Annual Maintenance Contracts)



FUMIGATION:

Fumigation is a process of exposing Insect or insect infested Stocks to the toxic fumes of a Chemical at lethal concentration for a specified period of time in an air tight enclosed space.

We are authorized by the Directorate of Plant Protection, Quarantine & Storage, Ministry of Agriculture, Government of India, to carry out Fumigation with restricted Chemicals like Methyl Bromide and Aluminum Phosphide (as per NSPM standards).

We have the required Expertise, Experience & Equipment for carrying out Fumigation; and with more than 39 years of rich experience, we are competent enough to address all your Quarantine and Fumigation needs of the following:

Food Grains (Consumables)	Warehouses; Silos & Godowns
Export Containers & Shipping Vessels	Fumigation as per ISPM 15

APART FROM THE ABOVE SERVICES; WE SUPPLY THE FOLLOWING MATERIALS:

Kraft Paper for Export Containers & Vessels	Silica Gel & Absorb Gel
Dry Bags	Fly Control Machine

We at Pest Cure Solutions and Fumigation, Visakhapatnam have also taken up social responsibility of creating awareness about Pest Management among the public to get rid of insect pest in a scientific methods through our program PAP-2022.



TERMITES (*Isoptera*)



Termites primarily eat cellulose, a complex carbohydrate found in wood, paper, and other plant materials. This is why they are notorious for damaging wooden structures and furniture. Their diet also includes a variety of plant fibers, which they can digest thanks to symbiotic bacteria and protozoa in their guts that break down cellulose.

Termites live in large, highly organized colonies that can number from a few hundred to several million individuals. A termite colony comprises different castes, each with specific roles:

- 1. Workers:** These are the most numerous and are responsible for building and maintaining the nest, as well as foraging for food and feeding other termites.
- 2. Soldiers:** Soldiers defend the colony from predators, such as ants. They are equipped with larger heads and mandibles for protection.
- 3. Reproductives:** The queen and king are responsible for reproduction. The queen can lay thousands of eggs each day, ensuring the colony's growth and sustainability.

Termites build intricate nests, which can range from simple tunnels in wood to complex mound structures, depending on the species. Their nests provide them shelter from predators and environmental conditions, as well as a controlled environment for raising young.

Termites are highly social and communicate through chemical signals known as pheromones. These signals help coordinate their activities, such as foraging and defence.

IDENTIFYING A TERMITE INFESTATION EARLY CAN HELP PREVENT EXTENSIVE DAMAGE. HERE ARE SOME KEY SIGNS TO LOOK FOR:

Mud Tubes: Termites build mud tubes for traveling between their colony and food sources. These pencil-thin tubes provide moisture and protection. Check near foundations, walls, or other structures.

Discarded Wings: Swarming termites (alates) shed their wings after mating. Piles of wings near windowsills, doors, or other entry points are a telltale sign.

Wood Damage: Look for wood that sounds hollow when tapped, as termites consume wood from the inside. They often leave a thin veneer of timber or paint.

Bubbling or Uneven Paint: This could indicate moisture buildup, which termites could cause as they bring moisture into the wood they infest.

Frass: Some termites, particularly drywood termites, produce droppings that look like small pellets. Finding these around wooden structures could indicate an infestation.

Swarms: If you see swarms inside or outside your home, it's a sign that a termite colony may be nearby or in your home.

Sagging Floors or Ceilings: Severe infestations can cause structural damage that leads to sagging or warped floors and ceilings.

If you notice these signs, it's crucial to contact a professional pest control service to assess and treat the infestation. Early detection and professional intervention can minimize damage and repair costs.



MOSQUITO FACTS



- If you eat bananas, you are more likely to be bitten!
- A mosquito can detect movement from 18 feet away. They don't like citronella as it irritates their feet.
- There are over 3500 species of mosquito. Females lay up to 300 eggs at any one time.
- Mosquitoes are responsible for the most human deaths in the world. They prefer children to adults.
- They are about 16 millimeters long. They have six legs.
- Most mosquitoes will stay within 1 mile of their breeding ground with very few travelling as far as 20 miles away.
- An egg can reach an adult mosquito in as little as 4 days. Only Females drink blood. Mosquitoes are cold blooded.
- They weight about 2.5 mg. Gestation period is 4 to 7 days. Mosquito's wings beat 500 times a second.
- A mosquito uses standing water to lay eggs in.
- A female mosquito finds you by sight and smell. A female mosquito will drink around 5 millionths of blood per attack.
- Females can lay between 1000 and 3000 eggs during its life. Eggs can survive for more than 5 years Before hatching.
- Male and female mosquitoes drink flower nectar for nourishment. Male mosquitoes are smaller than females. They can live between 2 weeks to 6 months.

RODENT FACTS (*Rodentia*)



- Rodents are a diverse and fascinating group of mammals widely recognized for their adaptability and ecological significance. Here's a broad overview:
- Rodents are distinguished by their single pair of continuously growing incisors in both the upper and lower jaws. This adaptation necessitates constant gnawing to keep their teeth in check.
- They are the largest order of mammals, comprising over 40% of all mammalian species. This includes well-known varieties such as mice, rats, squirrels, beavers, guinea pigs, and hamsters.
- Rodents inhabit a wide range of environments, from tropical forests to arid deserts, and are present on every continent except Antarctica.
- The size of rodents varies significantly, from the tiny African pygmy mice to the enormous capybaras, which can weigh over 140 pounds.
- Known for their rapid reproduction, many rodent species can breed multiple times a year, often producing large litters. This can lead to quick population growth under suitable conditions.

- While many rodents are herbivores, feeding on seeds, fruits, and plants, some species are omnivorous and consume a broader range of foods.
- Rodents play critical roles in ecosystems as prey for numerous predators, in seed dispersion and plant regeneration, and in the aeration of soils through their burrowing activities.
- Social structures vary among rodent species. Some live solitary lives, while others form complex, hierarchical colonies with intricate communication systems.
- Rodents have a dual relationship with humans. They are often regarded as pests due to their potential to damage crops, spread diseases, and consume stored food. Nevertheless, they are also valuable as laboratory organisms in scientific research and are kept as pets.

MAJOR INSECT PESTS OF STORED GRAINS

Stored grain pests are insects and other organisms that infest and damage stored grain products. These pests can cause significant economic losses by reducing the quality and quantity of the grain. Common examples of stored grain pests include:

1. **Rice Weevil:** A small beetle that bores into grains to lay eggs. The larvae then feed inside the grains.
2. **Granary Weevil:** Similar to rice weevils, these pests attack grains and can cause extensive damage.
3. **Lesser Grain Borer:** A beetle that can cause significant damage by tunneling through grains.
4. **Saw toothed Grain Beetle:** A small beetle that feeds on a wide range of stored products, including grain.
5. **Indian Meal Moth:** Known for larvae that produce webbing as they feed, contaminating food resources.
6. **Red Flour Beetle:** These pests often inhabit flour, cereal, and dried foods.



Prevention and control of stored grain pests include proper storage practices, regular monitoring, and the use of insecticides when necessary. Implementing effective pest management can help minimize product loss and maintain grain quality.

Identifying an infestation in stored grain is crucial for timely intervention and preservation of grain quality. Here are some signs to look for:

1. **Visible Insects:** Look for live or dead insects in the grain, around storage containers, or nearby surfaces.
2. **Webbing or Silk:** Presence of web-like structures might indicate an infestation, especially by moths such as the Indian meal moth.
3. **Damaged Grain:** Check for holes or tunneling in the grains, which is a common sign of pests like weevils and beetles.
4. **Clumping of Grain:** Moisture and pest activity can cause grains to clump together, which is an indication of infestation.
5. **Unusual Odors:** A moldy or musty smell can signal pest presence, caused by moisture and pest activity.
6. **Presence of Larvae:** Look for small, worm-like larvae which may indicate active pest breeding.
7. **Fine Dust or Frass:** Fine powder or small debris around the grain usually comprises insect excrement or parts.
8. **Change in Weight:** A significant or unexplained loss in the weight of stored grain could be due to pest consumption.

Regularly inspecting your grain and using traps or monitoring tools can help in early detection. If you suspect an infestation, consider removing the affected grain and treating it as necessary, which might include methods such as drying, cleaning, or using preventive chemicals to control and prevent future infestations.



khapra beetle (*Trogoderma granarium*)



Lesser grain borer/Hooded grain borer
/paddy borer beetle(*Rhyzopertha dominica*)



The red flour beetle (*Tribolium castaneum*)



Rice weevil (*Sitophilus oryzae*)



Pulse beetle, (*Callosobruchus chinensis*)





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