

AGROSAFE - L



BROAD SPECTRUM HERBAL PEST CONTROL FORMULATION

The damage to plants caused by pests including viruses, bacteria, fungi, and insects greatly impairs their productivity and in some instances can totally destroy a crop. Scientists have found that on a global scale, pathogens and pests are reducing crop yields for five major food crops by 10 percent to 40 percent. A global survey of crop health experts showed that Wheat, rice, maize, soybean, and potato yields are reduced by pathogens and animal pests, including insects. Viruses and viroids, bacteria, fungi and oomycetes, nematodes, arthropods, molluscs, vertebrates, and parasitic plants are among the factors working against farmers.



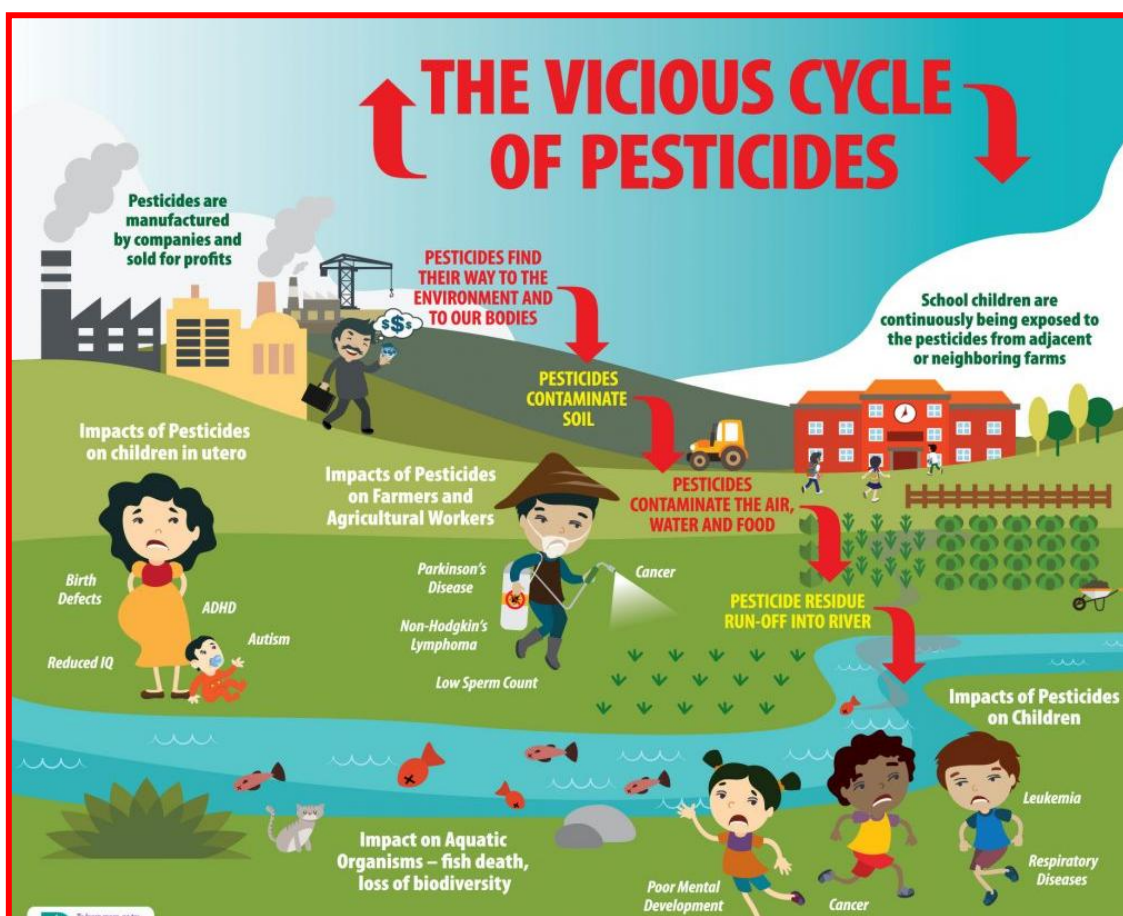
At a global scale, pests are causing wheat losses of 10 to 28 percent, rice losses of 25 to 41 percent, maize losses of 20 to 41 percent, potato losses of 8 to 21 percent, and soybean losses of 11 to 32 percent, according to a study published in the journal *Nature, Ecology & Evolution*.

After the end of World War II, the United States shifted its industries from the wartime production of chemicals to synthetic pesticide creation for use in agriculture. In the years directly following World War II, American chemical conglomerates commenced the manufacture of Aldrin (now banned in most countries), Dichloro-Diphenyl Trichloro ethane (DDT), Dieldrin, β -Benzene Hexachloride (BHC), Dichloro-phenoxy acetic acid, Chlordane and Endrin. The production was largescale. With huge spends on publicity and marketing across the globe, farmers were lured into using these toxic chemicals to kill pests and save crops. In other words, manufacturers of toxic or hazardous chemicals for the killing fields of war, overnight turned into angels manufacturing pesticides for agriculture! In this process, what was conveniently lost sight of was the fact that pesticides, because they are toxic chemicals meant to kill pest species, can effect non-target species, such as plants, animals and humans. Over 98% of sprayed insecticides and 95% of herbicides reach a destination other than their target species, because they are sprayed or spread across entire agricultural fields.



The negative effects of pesticides are not just in the place of application. **Run-off** and **pesticide drift** can carry pesticides into distant aquatic environments or other fields, grazing areas, human settlements and undeveloped areas. Other problems emerge from poor production, transport, storage and disposal practices. Over time, repeat application of pesticides increases pest resistance, while its effects on other species can facilitate the pest's resurgence.

Human body burden due to organochlorine pesticides results from the universal presence of these contaminants in the environment. This constitutes a major public health concern; indeed, organochlorines have been linked with **cancer, asthma, diabetes, and growth disorders** in children.



Though synthetic pesticides proved cheap and effective in killing insects, they naturally garnered criticism from NGOs concerned about their effect on human health.

Today, the world is looking for safe alternatives.



INTRODUCING AGROSAFE-L

AGROSAFE-L is a robust, plant-based pest control formulation developed to combat a wide spectrum of insect pests and fungal pathogens in agricultural crops. It is especially effective in **tea plantations**, where safe, non-toxic pest control is critical due to the direct consumption of processed tea leaves.

Formulated with **cold-pressed Neem oil** as the core ingredient and fortified with herbal extracts of **Garlic, Tobacco, Pungan (Karanja)**, and **Green Chillies**, AGROSAFE-L is an eco-friendly, non-residual, and sustainable solution for integrated pest and disease management.

KEY INGREDIENTS AND THEIR FUNCTIONS

✓ **Neem Oil (*Azadirachta indica*) – 60%**

Extracted from the seeds of the neem tree, neem oil contains a complex array of triterpenoids—most notably **Azadirachtin**, a compound known for its antifeedant, oviposition-detering, and insect growth-regulating properties. Azadirachtin content may vary from **300 ppm to over 2500 ppm**, depending on extraction quality.

Effective Against:

- Red spider mites, mealybugs, aphids, thrips, whiteflies, caterpillars, beetles, moth larvae, leafminers, nematodes, locusts, Japanese beetles.
- Fungal infections like black spot, powdery mildew, anthracnose, and rust.
- Household pests: ants, cockroaches, bedbugs, termites, mosquitoes, and sandflies.

Safety Profile: Recognized by the **U.S. Environmental Protection Agency (EPA)** as **non-mutagenic, non-toxic**, and safe for use on food crops with no adverse effects on mammals, birds, bees, butterflies, or earthworms.

✓ **Garlic (*Allium sativum*) – 10%**

- **Active Compounds:** Allicin, Diallyl sulfide
- **Action:** Contact repellent; disrupts feeding and egg-laying behaviour
- **Targets:** Aphids, whiteflies, spider mites

✓ **Tobacco (*Nicotiana tabacum*) – 5%**

- **Active Compound:** Nicotine
- **Action:** Acts as a natural neurotoxin, affecting the central nervous system of pests
- **Targets:** Aphids, caterpillars, thrips

✓ **Pungan / Karanja (*Pongamia pinnata*) – 15%**

- **Active Compounds:** Karanjin, Pongamol, Flavonoids
- **Action:** Olfactory repellent; antifeedant; oviposition deterrent
- **Targets:** A wide range of chewing and sucking insect pests
- **Additional Info:** Interferes with insect receptor pathways and masks attractants

✓ **Green Chillies (*Capsicum annuum*) – 10%**

- **Active Compound:** Capsaicin (a potent alkaloid)
- **Actions:**
 - Antibacterial: Disrupts cell membranes of bacteria, causing lysis
 - Antifungal: Inhibits fungal membrane function and reproduction
 - Insecticidal/Repellent: Causes irritation, feeding deterrence, and neuro-sensory disruption in pests
- **Targets:**
 - Bacteria: *E. coli*, *Salmonella*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*
 - Fungi: *Candida albicans*, *Aspergillus flavus*, *Fusarium spp.*, *Alternaria alternata*
 - Pests: Aphids, thrips, spider mites, whiteflies, caterpillars

FIELD PERFORMANCE AND FARMER VALIDATION

AGROSAFE-L has not yet been evaluated by institutional bodies such as Agricultural Universities. However, it has been extensively field-tested by progressive farmers across diverse agro-climatic zones in India, with a remarkable degree of success in controlling insect pests as well as bacterial and fungal infections.

Validated Crop Applications:

- Mango farms – Salem, Tamil Nadu
- Coconut groves – Pollachi, Tamil Nadu and Sri Lanka
- Vegetables and fruits – Nashik and Sangli, Maharashtra
- Rice and maize fields – Rajahmundry, Andhra Pradesh

Farmers across these regions have reported effective suppression of pest populations, significant reduction in fungal and bacterial diseases, and improved plant vitality, all without the harmful side effects or residues typically associated with synthetic pesticides. These positive outcomes position AGROSAFE-L as a credible and farmer-trusted solution for sustainable crop protection.

DANGERS OF PESTICIDES		
HUMANS	ENVIRONMENT	WILDLIFE
• LOWERED COGNITIVE PERFORMANCE • LOSS OF SMELL • PARKINSON'S DISEASE • ALZHEIMER'S & DEMENTIA • AUTISM • DAMAGED MOTOR FUNCTION • CANCER	• PERSISTENT CHEMICALS • CONTAMINATION OF AIR, GROUND, & WATER • FIELD RUN OFF • ENDS UP 1,000 MILES AWAY • IMPROPER DISPOSAL • AERIAL SPRAYING • COSTLY OR IMPOSSIBLE TO CLEAN WATER • DAMAGES SOIL	• CREATE MORE TOXIC CHEMICALS ONCE EATEN • DISRUPTS CALCIUM PRODUCTION • BIOMAGNIFICATION • PHYSIOLOGICAL AND BEHAVIORAL CHANGES • MASS EXTINCTION FOR BEES AND BATS • LOWERS POLLINATION • MISTAKEN FOR FOOD

WHY CHOOSE AGROSAFE-L?

- 100% Herbal and Biodegradable
- Free from chemical residues or synthetic toxins
- Safe for workers, consumers, and the environment
- Compliant with organic farming standards
- Effective in both preventive and curative pest management strategies

COMPARISON: AGROSAFE-L vs INORGANIC PESTICIDES

Parameter	AGROSAFE-L (Herbal)	Inorganic Chemical Pesticides
Composition	Neem oil, garlic, tobacco, pongamia, green chilli extracts	Synthetic compounds like organophosphates, carbamates, pyrethroids
Mode of Action	Multi-pronged: antifeedant, repellent, oviposition deterrent, antimicrobial	Neurotoxic, cytotoxic, or enzyme-inhibiting; targets insect nervous systems
Target Spectrum	Broad-spectrum: effective against insect pests, bacteria, and fungi	Usually specific to insect types; often not antifungal or antibacterial
Toxicity to Humans & Animals	Very low; safe for humans, animals, pollinators, and earthworms	Moderate to high; toxic to humans, livestock, bees, and beneficial insects
Environmental Residues	Biodegradable; no persistent residues	Persistent residues; risk of soil and water contamination
Resistance Development	Low risk of resistance development due to multiple active ingredients	High; pests often develop resistance with repeated use

Regulatory Classification	Generally classified as safe or GRAS (Generally Recognized as Safe)	Many fall under restricted or controlled-use categories
Re-entry Period (REP)	Minimal; safe to re-enter fields soon after application	Longer REP due to toxicity concerns
Effect on Soil Health	Enhances microbial activity; improves soil biodiversity	Can harm beneficial microbes and degrade soil health
Cost to Environment	Negligible; eco-friendly and renewable sources	High; pollution, toxicity, and non-target effects
Usage in Organic Farming	Permitted; aligns with organic certification standards	Prohibited in certified organic farming systems
Pest Resistance Risk	Low; multiple modes of action slow resistance build-up	High; resistance often builds in 3–5 crop cycles
Application Safety	Can be handled with minimal protective gear	Requires PPE due to health hazards
Shelf Life & Storage	Stable under cool, dry conditions; no explosive risk	May have hazardous storage requirements (flammable/toxic)

AGROSAFE-L is more than a pesticide—it's a step toward **regenerative agriculture**, **safer food systems**, and **eco-conscious pest control**. With the combined strength of nature's finest bio-actives, it provides comprehensive protection for crops, preserving both yield and ecological balance.

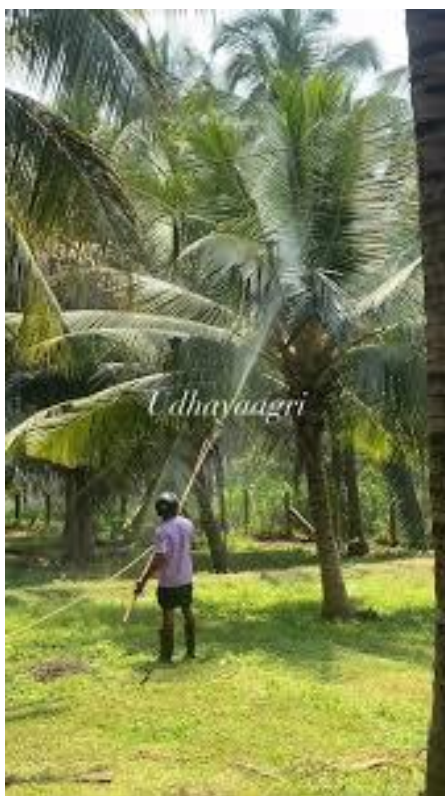
Ecohealth Products Pvt Ltd has harnessed the pest repellent properties of neem oil with a unique combination of time-tested herbal extracts blended into an organic liquid base. 2 ml of AGROSAFE-L, mixed into one litre of water can be used as a foliar spray to ward off insect pests, fungal attacks and pathogenic bacterial infections in plants. Once a fortnight spraying is advised as a preventive measure while alternate days spraying is advised in the case of infected crops, till the infection is controlled.



In the event of severe infections, 4 ml of AGROSAFE-L may be used in a litre of water. After the infection has been controlled, preventive dosing of 2 ml/Litre may be done every 45 days.

Application :

AGROSAFE-L is a foliar spray and can be applied using conventional back-pack sprayers, pressure pumps or drones. It can be used in **organic farming** as a natural pesticide.



- Effective in integrated pest management (IPM) systems.
- Many of these extracts have anti-bacterial, anti-fungal and anti-viral benefits as well.



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TEST REPORT

TEST REPORT NO: TNTH/M-0948/2021-22 DATE: 27.05.2021

SAMPLE SUBMITTED BY CUSTOMER

SAMPLE DESCRIPTION Agrosafe L: Herbal Pest Repellant
ANALYSIS STARTED ON 21.05.2021
ANALYSIS COMPLETED ON 27.05.2021

S. NO	PARAMETERS	METHOD	UNITS	RESULTS
I	Quality Analysis			
1	pH	IS 1061:1982	-	5.77
2	Specific Gravity	TNTH/SOP/PHARMA/102	g/ml	0.9225
3	Colour	By Physical Observation	-	Transparent
4	Odour		-	Agreedable
II	Assay Contents:			
1	Neem Nano Extract	TNTH/SOP/PHARMA/188	-	Present
2	Inorganic Contennt	GC	-	Absent
3	Heavy Metals	IP	-	Absent

G. Anesh
Verified By

For Tamilnadu Test House Private Limited

R. Pochaling
Authorised Signatory

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CERTIFICATE OF ANALYSIS

TEST REPORT NO: TNTH/M-0946/2021-22

DATE: 27.05.2021

SAMPLE SUBMITTED BY CUSTOMER

SAMPLE DESCRIPTION Agrosafe L: Herbal Pest Repellant

ANALYSIS STARTED ON 21.05.2021

ANALYSIS COMPLETED ON 27.05.2021

S. NO	PARAMETERS	METHOD	UNITS	RESULTS
III	Toxicity Test Report			
1	Non-Halogenated VOCs	EPA Method	µg/Kg	Not Detected
2	Non-Halogenated SVOCs	EPA Method	µg/Kg	Not Detected
3	Halogenated VOCs	EPA Method	µg/Kg	Not Detected
4	Halogenated SVOCs	EPA Method	µg/Kg	Not Detected
5	Poly Aromatic Hydrocarbons	EPA Method	µg/Kg	Not Detected
6	Pesticides	EPA Method	µg/Kg	Not Detected
7	Herbicides	EPA Method	µg/Kg	Not Detected

Remark : The Tested sample doesnot contain any Toxic Material with respect to the parameters tested above

**** END OF THE REPORT ****

For Tamilnadu Test House Private Limited

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