

Adoption of Biopesticides Available from Plants

Plant products

Use of botanicals is now emerging as one of the important means to be used in protection of crop produce and the environment from pesticidal pollution, which is a global problem.

Plant product used as bio-pesticide	Target pests
Limonene and Linalool	Fleas, aphids and mites, also kill fire ants, several types of flies, paper wasps and house crickets
Neem	A variety of sucking and chewing insect
Pyrethrum / Pyrethrins	Ants, aphids, roaches, fleas, flies, and ticks
Rotenone	Leaf-feeding insects, such as aphids, certain beetles (asparagus beetle, bean leaf beetle, Colorado potato beetle, cucumber beetle, flea beetle, strawberry leaf beetle, and others) and caterpillars, as well as fleas and lice on animals
Ryania	Caterpillars (European corn borer, corn earworm, and others) and thrips
Sabadilla	Squash bugs, harlequin bugs, thrips, caterpillars, leaf hoppers, and stink bugs

Neem is regarded as the most effective and ecofriendly. Neem products are effective against more than 350 species of arthropods, 12 species of nematodes, 15 species of fungi, three viruses, two species of snails and one crustacean species. Neem can be a very effective source in India where its production is an easy job.

Vrakshayurveda

Vrakshayurveda is traditional Indian knowledge of plants like sowing techniques, plant propagation techniques including pest and disease

management/preventive and promotive care to build up disease resistance and to cultivate healthy plants. Extracts of plants like neem, garlic, onion, persian lilac, turmeric, ginger, tobacco, papaya, leucas, pongam, tulasi, aloe, custard apple, vitex, sweetflag, poison nut, calotropis etc and their effects on curing plant diseases have been tested by “Centre for Indian Knowledge Systems, 30, Gandhi Mandapam Road, Kotturpuram, Chennai – 600 085. India.”

Potential Biopesticides (from plant extract)

Plant extract	Effective against
Adathoda kashayam and Pudhina kashayam	Leaf folder, bacterial leaf blight, Helminthosporium leaf spot
Thriphala kashayam	Bacterial leaf blight and Helminthosporium leaf spot,
Andrographis kashayam and Sida kashayam	Aphids and borers in brinjal, ladies finger
Barley Sesamum Horsegram kashayam	Acts as fruit yield enhancer
Cow’s urine arkam & Sweet flag arkam	Bacterial leaf blight, Helminthosporium leaf spot, vein clearing disease, fusarium wilt,
Garlic arkam	Leaf folder, bacterial leaf blight, Helminthosporium leaf spot
Neem seed extract (for all crops)	Leaf folder, aphids, Jassids, fruit borer and stem borer