Neem : The tree called the wonder tree –

A friend of Organic Farmer

Healthy soils makes healthy plants

"What makes organic farming different? It's not the use of pesticides, it's the origin of pesticides used"

Introduction: Neem is an evergreen tree which is found in tropical and subtropical areas[4]. In India it has the nickname of village pharmacy and others call it the wonder tree[7]. It is related to the curry tree but where a curry leaf tree is called a sweet neem, this neem is considered bitter[3]. The Neem Tree (Azadirachta indica) and its derivatives have great relevance in organic farming practices. Neem derivatives were used in Indian villages to protect and nourish crops[6].

Soil is the most important resource for producing food, it must be protected at all times from chemical contamination with synthetic fertilizers.

Agriculture in India has been practiced for more than 5000 years. Till around 1950, the land was nurtured with care using natural resources and organic materials[2]. Neem is attracting worldwide attention in recent decades mainly due to its bioactive ingredients that find increasing use in modern crop and grain protection. Neem plants, as do all other plants, contain several thousands of chemicals the most active and well studied compound is Azadirachtin. Several different kinds of Azadirachtin (A-K) have been isolated, the most abundant of which is Azadirachtin-A[6].

Use of neem products and its potentials in organic farming:

Major limitation: They are most effective against beetle larvae, butterfly and moth caterpillars reasonably effective against plant hoppers and leaf miners, exhibit satisfactory effect on aphids and white flies but poor control on mealy bugs, scale insects and mites.

Neem seed kernel extract, Neem leaf extract, Neem cake, Neem oil Spray

Products derived from neem tree are one of the important components of non-pesticidal approach, which have proven their efficacy under field conditions and are now being routinely adopted by the farmers as Biopesticides which has a variety of effects on pests, Nematicides against endoparasites and ectoparasites[1]. The neem products also control

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many fungal and bacterial plant pathogens, mites, animals and plant viruses.

Advantages: One cannot see a knock down effect with neem products as with chemical pesticides, since they act essentially as antifeedant, repellent and growth retardants[1]. The products doesn't have a pleasant smell but effective against insects.[4]

1. Preparation and application is simple.
2. Biodegradable and locally available and functioning as soil conditioner.
3. Serving as 100% safe to non-target organisms.
4. Low risk.
5. Supplying plants with high quality NPK, micronutrients and trace elements.
6. Cost saving by increasing nutrient availability to plants.
7. They do not cause any adverse effects neither on environment nor on human health[5].

Conclusion: In view of the multiple benefits of using neem based products in organic farming there is an urgent need to provide more promotion and awareness programmes[1] which can lead to popularizing neem in a decentralized mode of pest management. It can drastically reduce the environmental damage caused by excessive synthetic pesticide usage. Organic growers are, in general, better stewards of soil health, water quality, and public health than industrial farmers who are reliant in synthetic chemicals[5].

References:

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