

AgriInfoTech, Inc.

High Quality Bio-pesticides

for

Cost Effective Pest Management

By

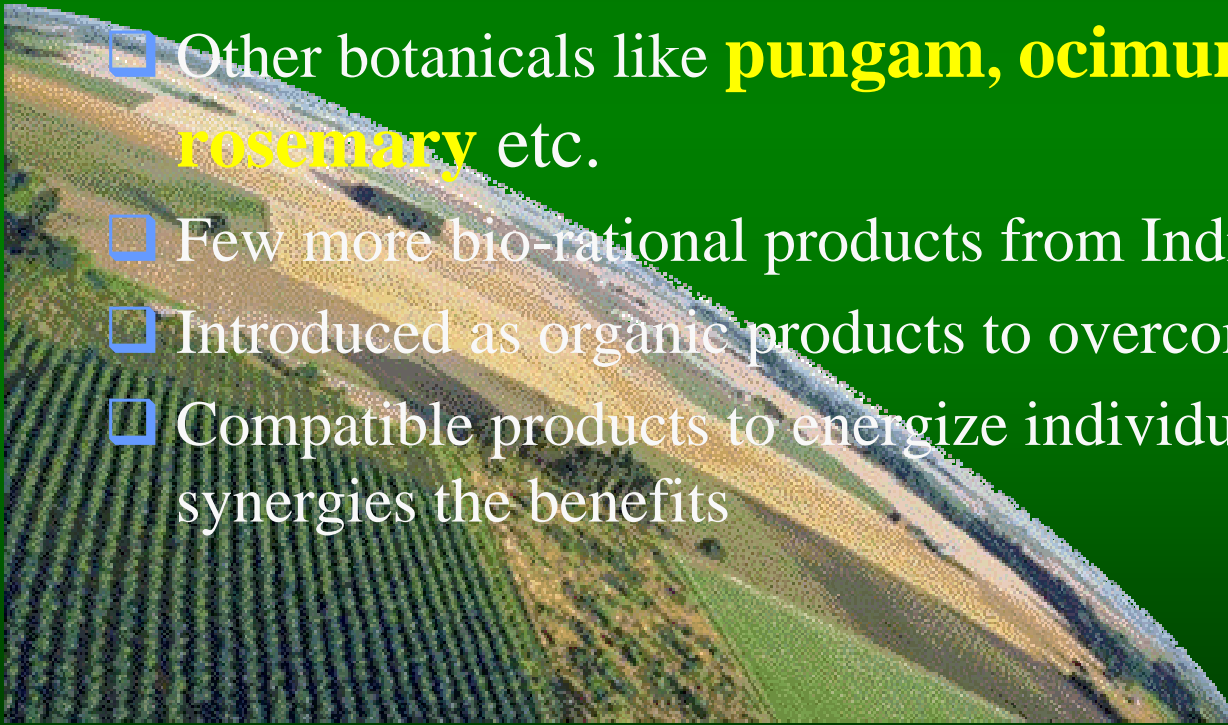
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AgriInfoTech, Inc.



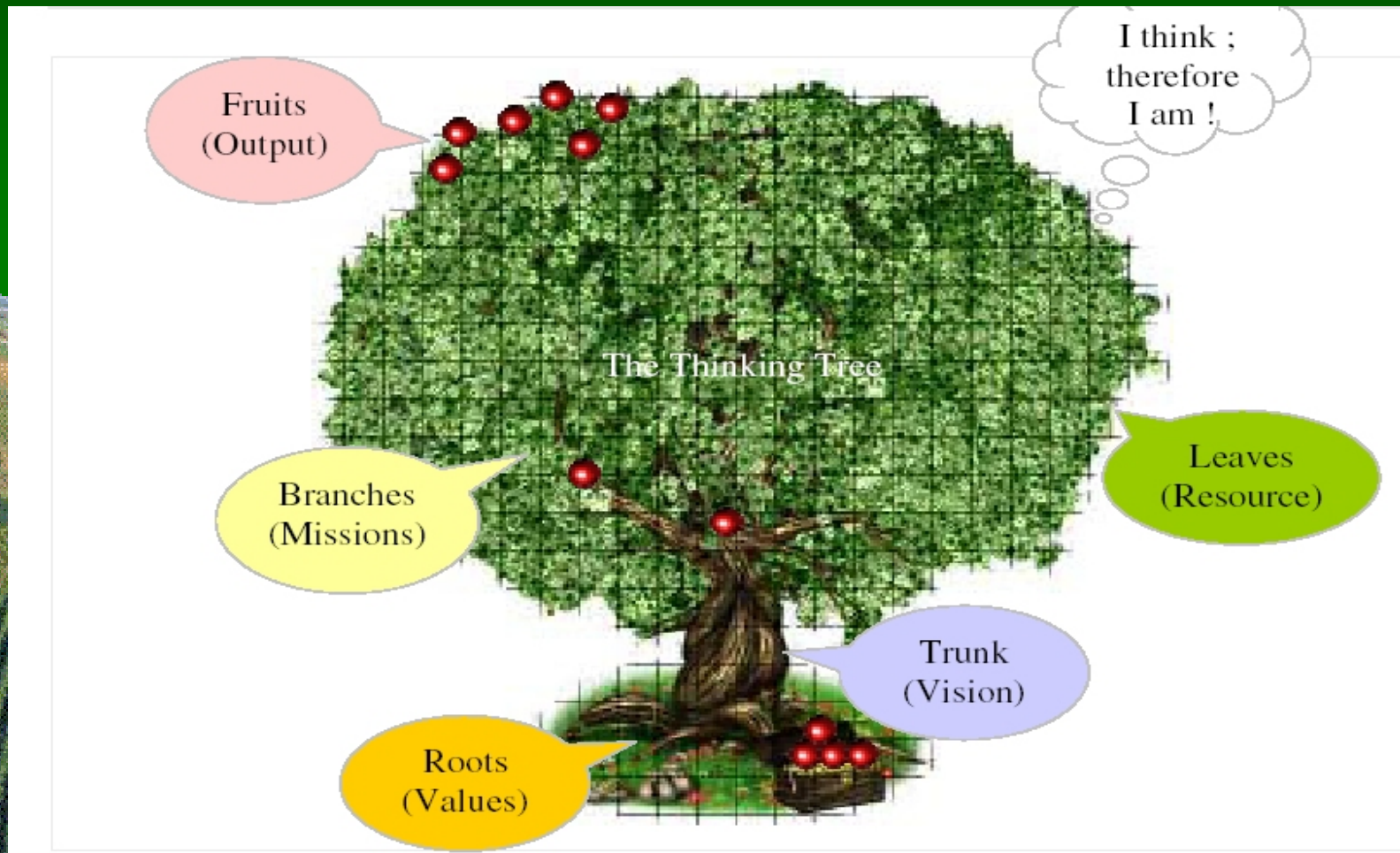
Objectives

- ❑ To establish an economically successful botanicals centered around **neem**
- ❑ Other botanicals like **pungam, ocimum, tobacco, rosemary** etc.
- ❑ Few more bio-rational products from Indian Herbs.
- ❑ Introduced as organic products to overcome the registration
- ❑ Compatible products to energize individual products and synergies the benefits



NEEM PROJECTS

AGRIINFOTECH's Focus



"The Tree For Solving Global Problems."

Technology Transfer – T3's approach

(old technology in newer fashion)

- Identify the existing problems
- Identify the products used in traditional farming
- Tune products for specific need or solves a specific problem
- Testing and evaluation of products for further improvement
- Products fit for Agronomic practices rather pest management.



MARKETING POLICY

- ⊗ Customer care is our main objective
- ⊗ Best products at the right price
- ⊗ Selling solutions to the customers & not the products
- ⊗ Acting as advisor, guides to the farmers.
- ⊗ Getting feedback from the customers for our innovations & new products
- ⊗ Farmers' problems are our challenge
- ⊗ Contract farmers are our partners and not the employees

Neem Facts



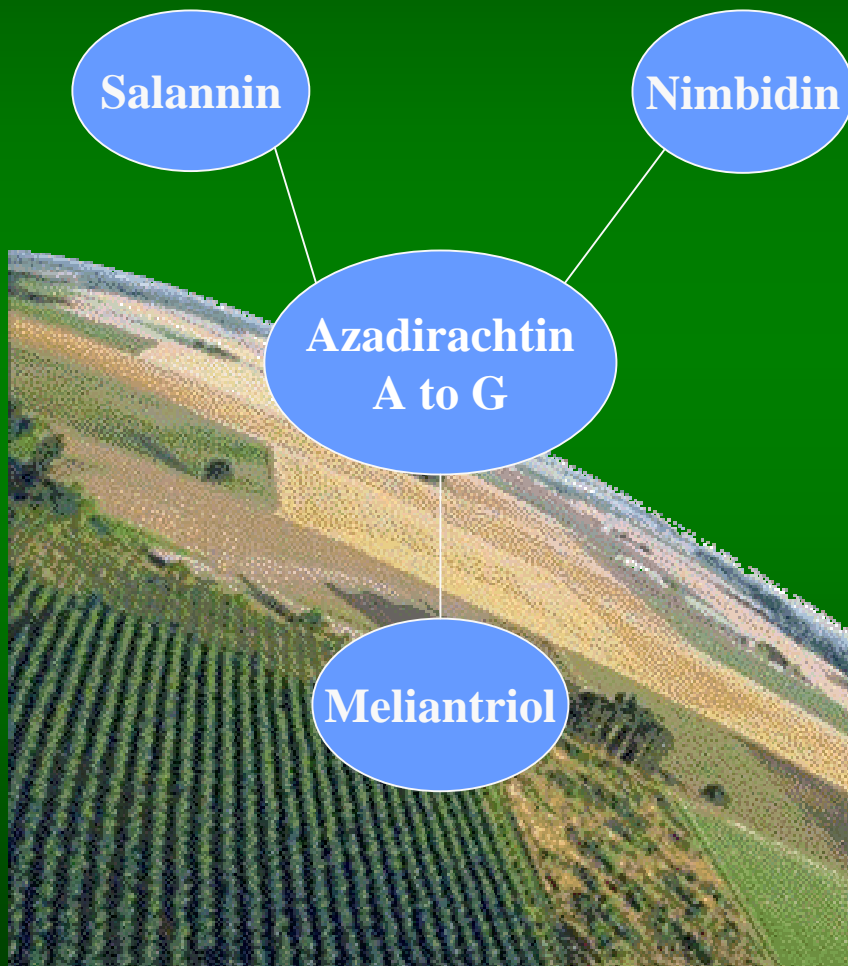
- About 2500 to 4000 years old
- **Used as medicine, shade, fuel and as pesticides**
- 195 different pests controlled
- **Wide spectrum control**
- Bio-degradable – very rapid
- **Rapid action at very low dozes**
- Very low mammalian toxicity

Pest control

- ✓ **More than 200 pests controlled**
(Lepidoptera, Homoptera,
Thysanoptera, Hymenoptera,
Diptera, Coleoptera)
- ✓ **Nematode control**
- ✓ **Virus control**
- ✓ **Fungus**

Pesticide value of Neem

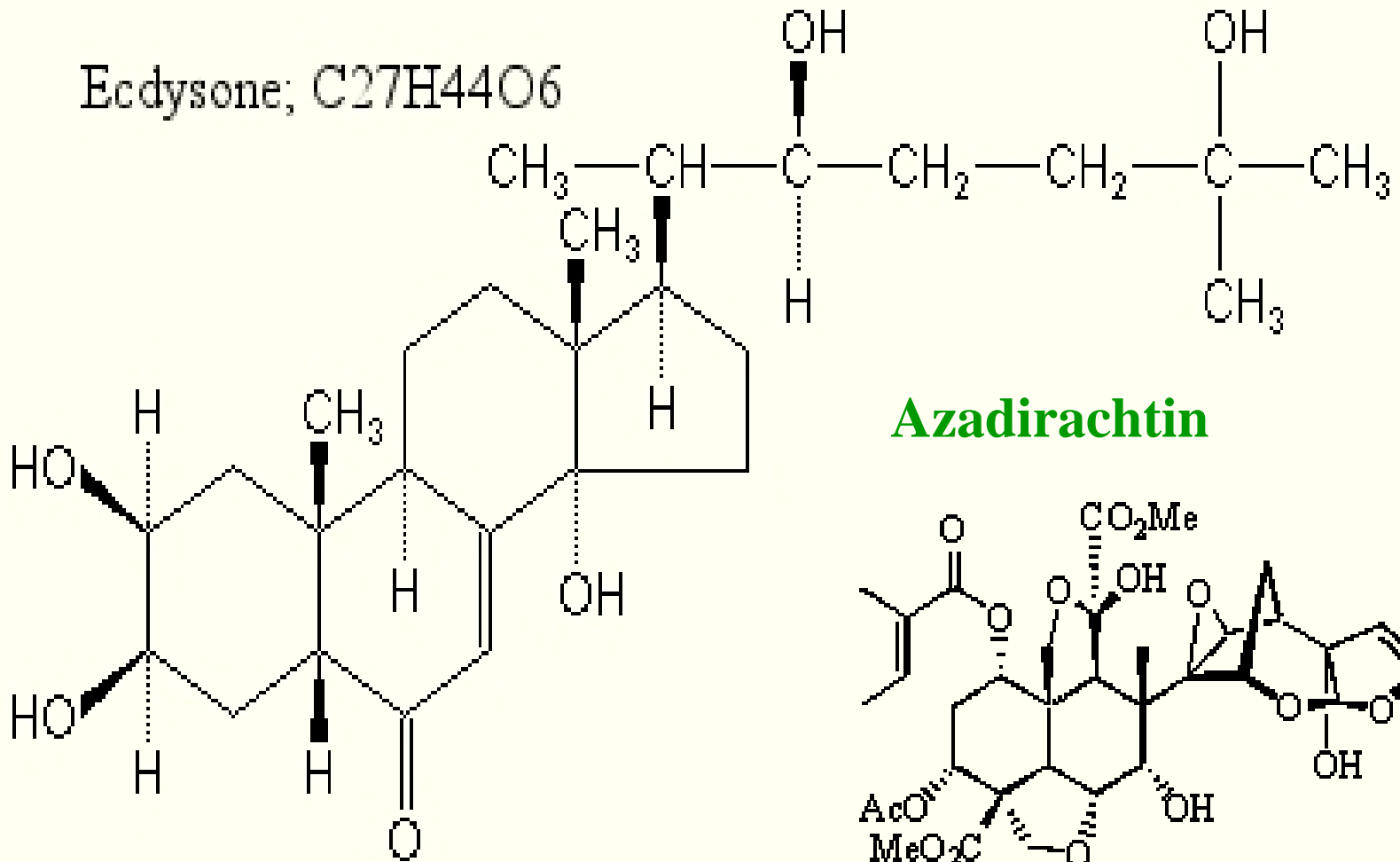
SOURCES OF ALKALOIDS



- Neem leaves
- Neem kernel extract
- Neem seed extract
- Neem oil
- Neem cake

Mode of action - Azadirachtin

Ecdysone; $C_{27}H_{44}O_6$



Azadirachtin

Mode of action – Contd...

- ✓ **Deacetyl azadarichtinol**
- ✓ **Deacetyl salannin**
- ✓ **Deacetyl salannol**
- ✓ **Phenolic compounds**
- ✓ **Steroids**
- ✓ **Carotenoids**
- ✓ **Ketones**

Mode of action – Contd...

- ✓ Disrupting or inhibiting the development of eggs, larvae, or pupae
- ✓• Blocking the molting of larvae or nymphs;
- ✓• Disrupting mating and sexual communication;
- ✓• Repelling larvae and adults;
- ✓• Deterring females from laying eggs;
- ✓• Sterilizing adults;
- ✓• Poisoning larvae and adults;
- ✓• Deterring feeding;
- ✓• Blocking the ability to "swallow" (that is, reducing the motility of the gut);
- ✓• Sending metamorphosis awry at various stages;
- ✓• Inhibiting the formation of chitin.

My experience

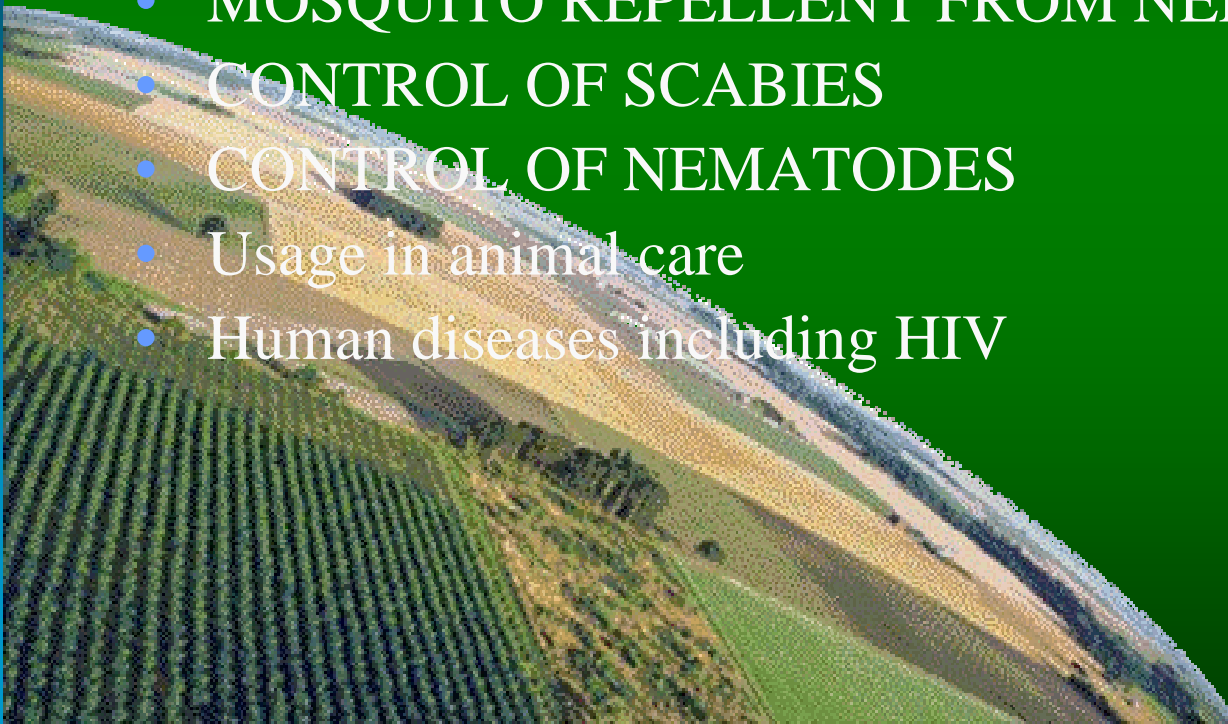
- ✓ At the age of 9
- ✓ As a researcher neem leaf manure
- ✓ NSK, Neem leaf extracts, Leechettes (Water based)
- ✓ Used in Fertilizer management trials (1984-1986)
- ✓ Used for Banana stem weevil control (1992-1995)
- ✓ Used in Coconut Red Palm Weevil control (1994-1997)
- ✓ Trunk injectable neem formulations
- ✓ Since 2000 in UAS of America, Inc. trying different botanicals

Traditional Usage

- *Neem kernel suspension (NKS)*
The effective concentration is ranges from 0.1 to 0.3%.
- *Neem oil + garlic emulsion (2%)*
- Neem leaf powder or Kernel powder or oil in stored pest control
- Neem oil spray
- Neem leaf extract
- Neem cake extract
- Pungam + Aloe + neem

Other Uses

- Neem leaf tea TO CONTROL TERMITES
- Neem oil TO PROTECT BEANS AGAINST STORAGE PESTS
- MOSQUITO REPELLENT FROM NEEM
- CONTROL OF SCABIES
- CONTROL OF NEMATODES
- Usage in animal care
- Human diseases including HIV



Other Uses

Neem preparations showed toxicity to cultures of 14 common fungi, including members of the following genera:

- Trichophyton – an ‘athlete’s foot’ fungus that infects hair, skin and nails;
- Epidermophyton – a ‘ringworm’ that invades both skin and nails of the feet;
- Microsporum – a ‘ringworm’ that invades hair, skin and (rarely) nails;
- Trichosporon – a fungus of the intestinal tract;
- Geotrichum – a yeast-like fungus that causes infections of the bronchi, lungs and mucous membranes;
- Candida – a yeast-like fungus that is part of the normal flora but can get out of control, leading to lesions in mouth (thrush) vagina skin hands and

AgriInfoTech's Approach

Introducing cost effective botanicals

How can we achieve this goals?

AgriInfoTech.s Approach

- ❖ Converting traditional packages into commercial practice
- ❖ **Working very close with Neem growing countries like India**
- ❖ Introduce high quality neem and other possible botanicals
- ❖ **Introduce neem and other plant derived products as fertilizer mix**

Other botanicals & hydrolyzed protein



Botanical extracts (Mix of Herbals)

- IC 100
- FC 100
- Hydrolyzed protein plus phosphonates for exploring SAR & ISR
- SulfoTobaLiquid
- AzaKaranj

New Products

NeemNemate (Solid Manure) (10 G, 15 G & 300 G)

It is a novel granular pesticide of botanical origin used for the control of soil borne pests including nematodes.

Ready to use – No mixing

Drift hazard is low because particles settle quickly.

No spray, little dust means low hazard to application

Simple application equipment, often seeders or fertilizer spreaders.

DOSE: 8 – 10 gm/ meter square

New Products

Repel Plus

(Horticultural oil plus Azadirachtin)

(Sucking pest control)

New Products

HUMIC ACID PLUS

Solid as well liquid product for soil application

Proactive treatment against nematode and sucking insects

New Products

BOTANICAL EXTRACT IC 100

(Bio-pesticide)

(Broad-spectrum bio-pesticides)

Aphids, Jassids, Caterpillars, Boll worms, Fruit worms, All types of borers, All types of miners, Red and Pink Mites and other sucking and feeding insects.

New Products – AgriInfotech series

BOTANICAL EXTRACT FC 100

(Liquid Bio Fungicide)

(First broad-spectrum herbal biological fungicide)

Disease

Root rot

Blight Wilt

Leaf Spot

Powdery Mildew

Ripe Rot

Damping off

Recommendations:

5ml/liter of water

New Products – AgriInfotech series

Hydrolyzed Protein

(Plant derived protein)

(Impart resistance as well PGR properties)

Recommendations:

Liquid as well Solid forms available

7ml/liter of water

New Products

Azadirachtin 2100

Different neem EC formulations at different strength of Azadirachtin ranges from 300 ppm to 10,000 ppm

Neem in Nematode's control

- *Helicotylenchus erythrina*,
- *Meloidogyne arenaria*, *Meloidogyne Incognita*,
- *Pratylenchus* sp,
- *Haplolaimus indicus*
- *M.Javanica* (root knot nematode found in vegetable crops like okra, chilli, French bean, tomato, black gram, green gram, egg plant, etc)
- *R.Brassica*, *Reniform Nematode*, *Root-knot Nematodes*, *Rotylenchus Reniformis* (found on okra, French bean and garden bean),
- *Rodopholus similis* (banana)
- *Trylenchor hynchus* etc..

Neem-Nematode – Field experiment I

Treatments	EFFECT OF NEEMNEMMATE ON ROOT KNOT INCIDENCE					
	At 45DAS		At 60 DAS		At 80 DAS	
Dose / sq.meter	Mean of three replications	% Decline	Mean of three replications	% Decline	Mean of three replications	% Decline
		over control		over control		over control
NeemNemate (2g)	2.76	-4.15	3.49	5.42	3.98	5.69
NeemNemate (4g)	2.67	-0.75	3.42	7.32	3.8	9.995
NeemNemate (2g+2g)	2.53	4.53	3.05	17.34	3.67	13.03
NeemNemate (6g)	2.47	6.79	3	18.7	3.82	9.48
NeemNemate (3g+3g)	2.64	0.38	2.98	19.24	3.67	13.03
NeemNemate (8g)	1.76	33.58	2.45	33.6	2.89	31.52
NeemNemate (10g)	1.58	40.38	2.18	40.92	2.44	42.18
NeemNemate (5g + 5g)	1.67	36.98	2.44	33.88	2.55	39.57
NeemNemate (4g + 3g +3g)	2.06	22.26	2.38	35.5	2.93	30.57
CarboFuran (5g + 5g)	2.04	23.02	2.42	34.42	3.15	25.36
Check	2.65		3.69		4.22	
CD	0.46		0.54		0.34	

Neem-Nematode – Field experiment I

Treatments							EFFECT OF NEEMNEMMATE IN COMBINATION WITH CARBOFURAN						
Dose / sq.meter	Root-Knot Index (0-5 Scale)												
	At 45DAS	% Decline	At 60 DAS	% Decline	At 80 DAS	% Decline							
NN 3g + CF 3g	1.45	29.27	2.57	24.41	3.42	16.38							
NN 5g + CF 5g	1.33	35.12	2.07	39.12	2.93	28.36							
CF 3g + NN 3g	1.62	20.98	2.42	28.82	3.48	14.91							
CF 5g + NN 5g	1.42	30.73	2.04	40	3	26.65							
NN 5g + NN 5g	1.3	36.59	2	41.18	2.95	27.87							
CF 5g + CF 5g	1.34	34.63	2	41.18	2.95	27.87							
Check	2.05		3.4		4.09								
CD	0.32		0.31		0.31								

New Projects – Product Development

AgriInfoTech is open for any new products development based on any specific problems

More Details

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www.agriinfotech.com

Thank you...