

**A BRIEF REPORT ON NEMATODE CONTROL WITH NEEM-NEMATE PRODUCTS
(OBSERVATIONAL TRIAL)**

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Methods and Materials - Two trials were conducted on testing the bio-efficacy of neemnemate 5G for the mangement of root-knot nematodes in FCV tobacco nurseries in Karnataka, India. Trial A and Trial B consisted of eleven and seven treatments respectively, in tobacco nurseries of one square meter area. Each treatment was replicated three times in a RBD design. Treatments were different combination of doses of neemnemate and carbofuran 5G.

Treatment details:

Trial A.

1. NeemNemate (2g)
2. NeemNemate (4g)
3. NeemNemate (2g+2g)
4. NeemNemate (6g)
5. NeemNemate (3g+3g)
6. NeemNemate (8g)
7. NeemNemate (10g)
8. NeemNemate (5g + 5g)
9. NeemNemate (4g + 3g +3g)
10. CarboFuran (5g + 5g)
11. Check

Trial B.

1. NeemNemate 3g + CarboFuran 3g
2. NeemNemate 5g + CarboFuran 5g
3. CarboFuran 3g + NeemNemate 3g
4. CarboFuran 5g + NeemNemate 5g
5. NeemNemate 5g + NeemNemate 5g
6. CarboFuran 5g + CarboFuran 5g
7. Check

Lay out: R.B.D
Replication: 3
Variety: FCV Special
Plot Size: 1.0 m²

Calculated quantities of nematicides were applied to the topsoil surface a day prior to the seed sowing. The second and third split applications were applied at 30 and 40 days after sowing (DAS) respectively.

Observations:

All quantitative characters like germination count on 15 DAS at random in 10 squares of each 100 sp. cm each and the averages calculated. Ten seedlings per bed were selected for recording weights and for taking observations on height leaf length and breadth.

Twenty-five seedlings were examined for root-knot infection per replication in each treatments and graded in 0 – 5 scale, from which root knot incidence (RKI) were calculated.

Results: (Observations on nematode control is presented in Table 1.)

Germination:

Trial A and B.

There was no adverse effect of neemnemat on tobacco seed germination in both the trials.

Root Knot Index:

Trial A.

At 45 DAS, neemnemat @ 10g/m² recorded the reduced RKI of 1.58, which is 40.8 % reduction compared to untreated check (2.65). It was on par with 8g doses and two splits of 5g each applied at the time of sowing followed by 30 DAS.

At 60 DAS, neemnemat @ 10 g and 8g recorder RKI of 2.19 and 2.45 respectively and were at par with carbofuran (2.42)

Observations recorded at 80 DAS also showed neemnemat dose @ 10g and 8g recorded 42.18 and 31.52 % reduction in RKI respectively compared to check.

Trial B.

There was significant reduction in RKI in all the plots receiving the neemnemat at 45, 60 and 80 DAS, when compared to untreated check. At 80 DAS, least RKI was recorded in combination treatment of neemnemat 5g plus carbofuran 5g.

Seedling growth and dry matter yield:

Trial A and Trial B.

Both the trials there is visible observations were recorded in plant height and dry matter yield in the plots receiving neemnemat.

Inference:

The results revealed that the neemnemat @ 4kg – 5kg a.i per hectare (meaning 8-10 g of 5G) neemnemat is required for meter square.

Follow up:

Trial may be treated by increasing the doses of actives to reduce the recommended doses of 32 – 40 kilograms of neemnemat.

Table 1. Effect of neemnemat on Root-knot incidence of tobacco seedlings

Trial A

EFFECT OF NEEMNEMMATE ON ROOT KNOT INCIDENCE						
Treatments	Mean of three replications					
Dose / sq.meter	At 45DAS	% Decline over control	At 60 DAS	% Decline over control	At 80 DAS	% Decline 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	

Trial B

EFFECT OF NEEMNEMMATE IN COMBINATION WITH CARBOFURAN						
Treatments	Root-Knot Index (0-5 Scale)					
Dose / sq.meter	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	

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