## Samrat Enriched Organic Fertilizer



Samrat is a scientifically blended organic fertilizer, enriched with the beneficial nematophagus fungus, *Paecilomyces lilacinus;* and the multi-faceted, nematicidal bacteria, *Pseudomonas fluorescens*. This combination of nutrients and micronutrients along with *Paecilomyces lilacinus* and *Pseudomonas fluorescens* results in the all-round healthy growth of the plant. Studies conducted by the Gujarat Agricultural University, Anand, Gujarat, India, have shown that the particular microorganisms present in Samrat has natural nematode control properties. Experiments conducted at our R&D farm and Universities across India have shown Samrat to be very effective against plant parasite nematodes such as:

Root-knot nematodes Cyst nematodes Citrus nematodes Burrowing nematodes Reniform nematodes Golden Cyst nematodes

Samrat offers an excellent combination of effective nematode control balanced with nutrients and micronutrients, ensuring the healthy growth of the plant and thereby resulting in higher yield with better quality.

#### **Nutrient Content:**

N - 1.5 to 2% P- 1% to 1.5% K- 0.5 to 1%. Spore Count 2 X 10<sup>8</sup> cfu/gm

#### Dosage:

150 - 200 kg per acre, preferably administered as a basal dose.

#### Nutrient Content: N - 1.5 to

**Storage:** Store in a cool, dry place under shade.

#### Packaging:

50 kg BOPP bag 25 kg BOPP bag 8 kg plastic bucket 2 kg plastic bucket

Evaluation of bionematicides Neemate 10G and Samrat for management of root-knot nematode, M. incognita race-II in pomegranate field.

Scientists involved: Prof. S.A. Pawar, Dr. N.L. Mhase and Prof. D.B. Kadam

#### Results:

The pre treatment root-knot nematode population in the soil ranged from 460 to 540 nematodes  $(J_2)/200 \text{ cm}^3$  of soil and number of root galls from 18 to 23/5 g roots.

It could be seen from the Table 32 and 35 that all the treatments were found significantly superior to an untreated control in reducing the root-knot nematode population and number of root galls/5g roots and increasing the yield at termination of the experiment.

# Effect of Samrat on the growth parameters of chickpea plant infected with M. incognita

Treatment	reatment Plant length (cm)		Plant fresh weight (g)		Plant dry weight (g)		Pods No.	Nodules No.	Chlorophyll content (mg/g fresh			
	Shoot	Root	Total	Shoot	Root	Total	Shoot	Root	Total			leaves)
Samrat	34.7	12.6	47.3	19.0	9.5	28.5	4.1	1.7	5.8	30	5	3.000

## Effect of Neemate and Samrat on the root-knot development of M. incognita in chickpea plant.

Treatment	Nemato populat	ode tion	No. of galls/ root system	No. of eggs/ eggmass	No. of eggmasses/ root system
	Soil	Root			
Samrat	11600	172	82	75	60

Effect of bio-nematicides on the development of root knot nematode and yield in Tomato:

Treatment	Pf / 200 cc soil	RKI	Yield (q/ha)	ICBR
Samrat @ 30 g/ plant	583.33	5	108.2	2.35
Samrat @ 45g/ plant	510.00	5	112.6	2.42
Carbofuran @ 5 g /plant	386.67	5	110.1	1.52
Control	1246.67	5	100.1	-

Effect of bio-nematicides on the development of root knot nematode in Pumpkin:

Treatment	No. of galls / plant
Samrat @ 15 g per plant	143.00
Samrat @ 30 g / plant.	115.33
Control – no chemical /bioproducts	190.66

Evaluation of bionematicides Neemate 10G and Samrat (organic manure enriched with bionematicide) for the management of Phytonematodes in banana.

## Table 1 Effect of bionematicides on the biometric characters of banana

Treatment	Pf / 200 cc soil	RKI	Yield (q/ha)	ICBR
Samrat @ 30 g / plant	583.33	5	108.2	2.35
Samrat @ 45 g / plant	510.00	5	112.6	2.42
Carbofuran @ 5 g / plant	386.67	5	110.1	1.52
Control	1246.67	5	100.1	-

Treatments	No. Of Bunches	No. of fingers	Weight of bunches (kg)	Yield q /ha
T3 Nemate 10 G @ 2g a.i. /plant	4.13	34.01	7.07	176.75
T6 Samrat @ 750 g/plant	4.00	32.17	7.54	188.5
T8 Control	3.56	29.00	5.13	128.25
CD	NS	4.11	0.90	

Table 3 Effect of bionematicides on the nematode population in the root rhizosphere of banana.

Treatments	Lesions on Rhizome (10 g)	Lesions on Root (10 g)	Root – knot index	Population in 200 g soil	Nematode population in 5g feeder root
T3 Nemate 10 G @ 2g a.i./ plant	33.66(5.80)	30.09(5.49)	1.89(1.70)	81.76(9.04)	9.15(3.03)
T6 Samrat @ 750 g / plant	25.64( 5.06)	28.60(5.35)	1.73(1.65)	87.41(9.35)	9.95(3.15)
T8 Control	66.57(8.16)	35.86(5.99)	2.76(1.94)	224.53(14.98)	104.70(10.23)
CD	1.98	NS		(0.82)	(0.70)

Evaluation of Bio nematicide, Neemate 10 G and Samrat (Organic manure enriched with Bio- Nematicide) for management of Lesion nematode ( *Pratylenchus thornei*) effect of Neemate 10 G and Samrat on growth parameters and nematode (*P. thornei*) population on Chickpea

Table : Effect of Neemate 10 G and Samrat on growth parameters and nematode (P. thornei) population (2010-2012)

Treatments	G	rowth Paramete	rs	Nematode Population			
	Germination	Growth score	Yield q/ha	Initial	Soil/200 cm <sup>3</sup>	Root / 5 g	
	Count	(0-10 scale)		(Soil/200cm <sup>3)</sup>			
Neemate 10G	91.46	1-1	6.30	247	222	21.25	
Samrat	88.00	1-1	6.42	562	220	24.00	
Untreated	83.99	0-0	5.47	507	600	26.25	
Control							
SEm±	NS	NS	0.593	NS	-	-	
CD%(P=0.05)	-	-	1.746	-	-	-	



samrat not used no suckers –less growth.



samrat used-full growth.



samrat used - augmented stem with suckers



Samrat not used-less growth.



### samrat used-more suckers



## Certificate of Analysis

## SAMRAT

#### **Enriched Organic Fertilizer**

Batch No.	:	129
Date of analysis	:	30/07/2014
Mfg. Date	:	30/07/2014

Sr. No.	Characteristic	Requirement	Results Obtained
1	Organic matter	29.00%	Complies
2	Nitrogen (N <sub>2</sub> )	1.79%	Complies
3	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	1.29%	Complies
4	Potassium (K <sub>2</sub> O)	0.79 %	Complies
5	Spore Count	2 x 10 <sup>8</sup> CFU/gm	Complies

**Remark:** The above product complies as per specification.

For Nico Orgo Manures

For Nico Orgo Manures

Quality Control Dept.

Partner

Microbiologist

### MATERIAL SAFETY DATA SHEET

#### SAMRAT – Enriched Organic Fertilizer

#### \*\*\*\* SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION \*\*\*\*

Name : SAMRAT – Enriched Organic Manure Company Identification: Nico Orgo Manures Opp.railway station, Dakor-388225, Gujarat, India. Tel. 0091 2699 244403

Fax. 0091 2699 244903

#### \*\*\*\* SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS \*\*\*\*

Enriched Organic Fertilizer made from Neem cake, Castor Cake, Karanj Cake, etc.

#### \*\*\*\* SECTION 3 - HAZARDS IDENTIFICATION \*\*\*\*

Fire : Non inflammable. Non hazardous. Other Hazards: Hazardous polimerisation will not occur.

#### \*\*\*\* SECTION 4 - FIRST AID MEASURES \*\*\*\*

No first aid measures necessary since non-toxic & non hazardous.

#### \*\*\*\* SECTION 5 - FIRE FIGHTING MEASURES \*\*\*\*

Non flammable

#### \*\*\*\* SECTION 6 - ACCIDENTAL RELEASE MEASURES \*\*\*\*

Not applicable as being in powder form

#### \*\*\*\* SECTION 7 - HANDLING and STORAGE \*\*\*\*

Store in a cool, dry, & covered place. No other special arrangements required.

#### \*\*\*\* SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION \*\*\*\*

Does not require any special measures however it is advisable to wear gloves.

#### \*\*\*\* SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*\*

Appreance : Dark brown powder with typical organic & Neem odour.

#### \*\*\*\* SECTION 10 - STABILITY AND REACTIVITY \*\*\*\*

Stable and non reactive

#### \*\*\*\* SECTION 11 - TOXICOLOGICAL INFORMATION \*\*\*\*

Non Toxic

#### \*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*

Eco friendly and used for fertilizing soil

#### \*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*

Does not require special steps

#### \*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*

Safe for transportation

#### \*\*\*\* SECTION 15 - REGULATORY INFORMATION \*\*\*\*

It is non toxic , non corrosive and does not contain any hazardous air pollutants.

#### \*\*\*\* SECTION 16 - ADDITIONAL INFORMATION \*\*\*\*

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Nico Orgo Manures assumes no legal responsibility for use or reliance on these data.