

E-mail : [director@upasitearesearch.org](mailto:director@upasitearesearch.org)  
Grams : UPASI, Valparai.

Ph : (04253) - 235301, 235303.  
Fax : +91-(04253) - 235302.

# UPASI TEA RESEARCH FOUNDATION

Tea Research Institute  
Nirar Dam BPO, Valparai - 642 127, Coimbatore., India  
[www.upasitearesearch.org](http://www.upasitearesearch.org)

DR/ENT/PPF-R/2010/307

19.04.2010

DR.S.Prem Mathi Maran,  
M/s. Veritas Agro Ventures Pvt. Ltd.  
46/2, Naickarmar Street,  
West Mambalam,  
Chennai-600 033.

Dear Sir,

Please find an enclosed report as detailed below.

1. Evaluation of Azter (Azadirachtin 0.15 % EC) against red spider mite of tea

Kindly acknowledge the receipt.

Yours faithfully,

  
DIRECTOR

Encl.: As above



# REPORT ON THE EVALUATION OF AZTER (AZADIRACHTIN 0.15% EC) AGAINST THE RED SPIDER MITE OF TEA

**UPASI Tea Research Foundation  
Tea Research Institute  
Nirar Dam BPO  
Valparai 642 127; Coimbatore Dist.  
Tamil Nadu; India**

**CERTIFICATE**

This is to certify that the work presented in this report entitled "Evaluation of Azter (Azadirachtin 0.15%EC) against the red spider mite of tea" has been carried out as per the approved protocol. The field experiment was conducted at Vandiperiyar (Idukki District, Kerala) by the UPASI Tea Research Foundation, Regional Centre, Vandiperiyar. The report furnished herein is based on the original record of the results obtained.

Date: 19.04.2010



**(Dr. P. Mohan Kumar)**

Director

UPASI Tea Research Foundation


Nirar Dam B.P.O.

Valparai 642 127, Tamil Nadu

## DECLARATION

The work presented in this report is a true and authentic record of the experiment entitled "Evaluation of Azter (Azadirachtin 0.15% EC) against the red spider mite of tea", based on the research conducted at Vandiperiyar (Idukki District, Kerala) by the UPASI Tea Research Foundation, Regional Centre, Vandiperiyar., in accordance with the standard protocol. The experiment has been conducted for the purpose of registration of the product. The report furnished herein is based on the original record of the results obtained.

Date: 19.04.2010

  
**Dr. A. Babu, M.Sc., Ph.D.**  
Study Director

## REPORT ON THE EVALUATION OF AZTER (AZADIRACHTIN 0.15% EC) AGAINST THE RED SPIDER MITE OF TEA

### I. GENERAL INFORMATION

Project Title	:	Evaluation of Azter (Azadirachtin 0.15% EC) against the red spider mite of tea
Experiment Number	:	ENT/423/09 - CT
Report Number	:	ENT/PPF/2010/05
Date of compilation	:	12 <sup>th</sup> April 2010
Name and address of the Sponsor	:	M/s. Veritas Agro Ventures Pvt. Ltd. 46/2, Naickarar Street, West Mambalam, Chennai-600 033.
Name and address of the Research Institute	:	UPASI Tea Research Foundation Tea Research Institute Nirar Dam BPO Valparai - 642 127 Coimbatore Dist. Tamil Nadu, India
Objective	:	To evaluate the efficacy of Azter (Azadirachtin 0.15% EC) against the red spider mite, <i>Oligonychus coffeae</i> (Nietner) (Tetranychidae: Acarina) of tea.

## II. TEST FORMULATION DETAILS

- |                            |   |                          |
|----------------------------|---|--------------------------|
| 1. Nature of product       | : | Botanical Product        |
| 2. Common name             | : | Neem formulation         |
| 3. Trade name              | : | Azter                    |
| 4. Active ingredient (a.i) | : | Azadirachtin 0.15% EC    |
| 5. Type of formulation     | : | Emulsifiable concentrate |

## III. DETAILS OF THE EXPERIMENT

- |                                       |   |   |
|---------------------------------------|---|---|
| A) Nature of trial                    | : | Randomized Block Design (RBD)               |
| B) Location                           | : | Churakulam estate, Vandiperiyar             |
| C) Field study conducted by           | : | UPASITRF, Regional Centre, Vandiperiyar     |
| D) Name of crop                       | : | Tea, <i>Camellia sinensis</i> (L) O. Kuntze |
| E) Variety of the crop                | : | Mixture of different cultivars              |
| F) Plot size (No. of bushes per plot) | : | 80 bushes                                   |
| G) Year of pruning                    | : | 2008  |
| H) Treatments                         | : | Six   |
| I) Replication                        | : | Four  |

- J) Treatment details : T1- Azadirachtin 0.15% EC @ 1125 ml/ha  
T2- Azadirachtin 0.15% EC@ 2250 ml/ha  
T3 - Azadirachtin 0.15% EC@ 3375 ml /ha  
T4 - Derrimax @ 150 ml /ha  
T5 - Neem Kernel Aqueous Extract  
(NKAE) @ 5.0%  
T6 - Untreated Control
- K) Details of Sampling : Red spider mite population was assessed at weekly interval by collecting 20 leaves from 20 bushes selected at random from each block. From each leaf, red spider mites were counted.
- L) Date of start : 19.12.2009
- M) Date of conclusion : 19.02.2010
- N) Dates of spray : I spray : 20.12.2009  
II spray : 30.12.2009
- O) Method of Application : Required quantity of the formulation was mixed in water. The fluid was applied with a hand operated knapsack sprayer using a spray volume of 450 l/ha.
- P) Details of observations : Observations were made for a period of seven weeks from the date of first spraying.
- Q) Results : Results of the experiment are given in Table 1. The results indicated that, spraying of Azter (Azadirachtin 0.15 % EC ) @ 2250 & 3375 ml/ha has significantly reduced the number of red spider mites, (*Oligonychus coffeae*) in comparison to untreated control.

Table 1. Evaluation of Azter (Azadirachtin 0.15%EC) against red spider mite

T. No.	Treatment	Dosage/ ha	Number of red spider mites / 80 leaves							
			Pretreatment	I week after I spray	I week after II spray	II week after II spray	III week after II spray	IV week after II spray	V week after II spray	VI week after II spray
T1	Azter (Azadirachtin 0.15%EC)	1125 ml	1522 (78.10)	1152 (67.97)e	570 (47.91)e	382 (39.28)e	282 (33.80)e	264 (32.72)c	236 (30.98)e	164 (25.92)e
T2	Azter (Azadirachtin 0.15% EC)	2250 ml	1514 (77.89)	1060 (65.24)d	510 (45.33)d	276 (33.44)d	232 (30.71)d	214 (29.51)d	184 (27.41)d	148 (24.65)d
T3	Azter (Azadirachtin 0.15% EC)	3375 ml	1496 (77.45)	926 (60.98)c	392 (39.80)c	238 (31.10)c	174 (26.66)c	158 (25.44)c	106 (20.95)	74 (17.65)c
T4	Derrimax	150 ml	1588 (79.77)	458 (42.87)a	172 (26.50)a	82 (18.53)a	58 (15.72)a	38 (12.88)a	18 (9.260a)	6 (6.20)a
T5	Neem Kernel Aqueous Extract@ 5.0%	5.00 %	1492 (77.34)	692 (52.75)b	296 (34.61)b	158 (25.44)b	126 (22.78)b	106 (20.95)b	76 (17.88)b	24 (10.53)b
T7	Untreated control	-	1578 (79.54)	1588 (79.80)f	1596 (80.00)f	1052 (64.93)f	902 (60.17)f	778 (55.91)f	638 (50.67)f	488 (44.36)f
CD at P = 0.05			NS	2.60	1.54	2.19	1.65	1.60	1.36	1.25

Dates of chemical application : I spray : 20.12.2009 (T1, T2, T3, T4, T5); II spray : 30.12.2009 (T1, T2, T3)

Figures in parentheses are transformed values of  $\sqrt{x+1}$ ; Figures followed by the same alphabets in a vertical column are not significantly different at five per cent level.

