

## **Biodata of the Scientist**

Division/Section: Crop Improvement

1. Name (With Title): Dr. (Mrs.) Asha Devi A

1.a. Qualification: Ph.D.

2. Designation: Senior Scientist

3. Address(Personal): 4 A, Windbrook Place, Althara Junction, Vellayambalam P.O.,  
Thiruvananthapuram 695 010, Kerala, India

4. Phone Numbers:

(a) Residence: 0471-2311671 (b) Intercom: 118 (c) Mobile: 9446508067

5. Email: ashadevi05@gmail.com

6. Countries visited: Nil

### **B. Professional information**

1. Area of specialization: Genetics

2. Area of interest: Plant genetics, biotechnology, breeding, genetic resource management  
and *in vitro* studies

3. Number of institute projects completed (Add list): Ten

4. Number of Institute projects being handled (Add list): Three

5. Number of externally funded projects completed (Add list): Nil

6. Number of externally funded projects being handled (Add list): Nil

7. Number of students guided for a) Ph.D. Nil b) M.Phil. Nil c) M.Sc. 1

8. Number of students being guided for a) Ph.D. Nil b) M.Phil. Nil c) M.Sc. 2

8.a. information about the students under your guidance

Name of the student	Course undergoing (Ph.D/M.Phil/M.Sc)	Title of the project/Thesis	E-mail address
Ms. Dersana P Kurup (August 2012)	M.Sc. Biotechnology, MG University, Kerala	Genetic Diversity Studies of Taro ( <i>Colocasia esculenta</i> (L.) Schott.) Accessions using Inter Simple Sequence Repeat (ISSR) Markers	kurup.dersana@gmail.com
Ms. Pinky Francis (August 2013)	M.Sc. Biotechnology, MG University, Kerala	Genetic Diversity Analysis of Kerala Landraces of Taro ( <i>Colocasia esculenta</i> (L.) Schott.) Using ISSR Markers	pinkyfrancis5@gmail.com

Ms. Vinutha K. B. (2013 - 2014)	M. Sc. (Integrated) Biotechnology Course, Kerala Agricultural College, KAU, Vellayani	Genetic diversity analysis in taro ( <i>Colocasia esculenta</i> L. Schott) of North East India	bioresearch@india.com
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9. Information on guide ship

Guide ship for Ph.D/ M.Phil/ M.Sc	University	Subject
M.Sc.	Kerala Agricultural College, KAU, Vellayani	Biotechnology

10. Number of Research papers (Add list): Eleven

11. Number of Books/Book chapters (Add list): Four

12. Number of Technical Bulletins (Add list): Nil

13. Consultancies offered (Add list and give a brief description): Nil

14. Technologies developed (Add list and give a brief description): Micropropagation protocols in onion and garlic.

15. Patents/Copyrights obtained (Add list and give a brief description): Nil

16. Any other information:

## B.2

As Principal Investigator

- Project 1 Induction of haploids in onion
- Project 2 Micropropagation studies in onion
- Project 3 DNA profiling of onion lines using molecular marker
- Project 4 Collection, conservation, cataloguing and evaluation of aroids germplasm

As Co-Principal Investigator

- Project 1 Collection, characterisation and evaluation of garlic germplasm
- Project 2 Breeding garlic varieties for high yield and resistance to biotic and abiotic stresses
- Project 3 Micropropagation studies in garlic (*Allium sativum* L.)
- Project 4 Molecular diversity analysis in garlic (*Allium sativum* L.) germplasm
- Project 5 Mutation studies in garlic (*Allium sativum* L.)

## B.3

- Project 1 Collection, conservation, characterization and evaluation of germplasm of tropical root and tuber crops - Activity 1: Field Gene Bank of Genetic Resources of Tropical Root and Tuber Crops; Activity 2: *In vitro* conservation of tuber crops germplasm
- Project 2 Varietal improvement in tropical tuber crops - Activity 1: Varietal improvement of cassava for CMD resistance, earliness, high starch and keeping quality; Activity 3: Genetic improvement of yams and edible aroids (As activity leader)
- Project 3 Biotechnological approaches for improvement of tropical tuber crops - Activity 5: Modifying genes in starch metabolism – a means to enhance starch content and develop waxy cassava

## B.10

**Asha Devi A.** 2012. Genetic diversity analysis in taro using molecular markers – An overview. *J. Root Crops*, 38 (1): 15-25.

Khar A, **Asha Devi A**, Mahajan V and Lawande KE. 2007. Stability analysis in elite lines of onion. *Indian J. of Horticulture*. 64 (4) : 415-419.

**Asha Devi A**, Khar A and Lawande KE. 2007. Genotypic response of short day garlic varieties for shoot multiplication. *J. Spices and Aromatic crops*. 16 (1) : 15-21.

Khar A, **Asha Devi A.**, Mahajan V, Lawande KE. 2006. Genetic divergence analysis in elite lines of garlic (*Allium sativum* L.). *J. Maharashtra Agr. Univ.* 31 (1) : 52-55.

Khar A, **Asha Devi A.**, Mahajan V, Lawande KE. 2006. Genetic diversity analysis in elite lines of late *kharif* (*rangda*) onion. *J. Maharashtra Agr. Univ.* 31 (1) : 49-52.

Khar A, **Asha Devi A** and Lawande KE. 2005. Current Status of Biotechnological Approaches in Onion (*Allium cepa* L.) - A Review. *The Botanica*, Delhi University. 55: 7-16.

Khar A, Mahajan V, **Asha Devi A** and Lawande KE. 2005. Genetical studies in elite lines of garlic (*Allium sativum* L.). *J. Maharashtra Agr. Univ.* 30 (3) : 277-280.

Khar A, **Asha Devi A** and Lawande K E. 2005. Callus culture and regeneration from root tip of garlic (*Allium sativum* L.). *J. Spices and Aromatic Crops.* Vol. 14 (1) : 51-55.

Khar A, **Asha Devi A**, Mahajan V and Lawande K E. 2005. Genotype x environment interactions and stability analysis in elite lines of garlic (*Allium sativum* L.). *J. Spices and Aromatic Crops.* Vol. 14(1) : 21-27.

Khar A, **Asha Devi A**, Mahajan V and Lawande KE. 2004. Performance studies of some promising garlic accessions under Rajgurunagar conditions. *J. Maharashtra Agr. Univ.* 29 (2) : 214-216.

Khar A, Lawande KE and **Asha Devi A**. 2003. Biotechnological approaches in garlic (*Allium sativum* L.) - Past, present and future. *The Botanica*, Delhi University. 53 : 155-168.

### **B.11**

**Asha Devi A**, Khar A and Lawande KE. Onion. In: Advances in Horticultural Biotechnology. Molecular Markers and Marker Aided Selection – Vegetables, Ornamentals and Tuber Crops. Ed. HP Singh. Vol. 4.

Khar A, **Asha Devi A** and Lawande KE. Garlic. In: Advances in Horticultural Biotechnology. Molecular Markers and Marker Aided Selection – Vegetables, Ornamentals and Tuber Crops. Ed. HP Singh. Vol. 4.

**Asha Devi A**, Khar A and Lawande KE. Onion. In: Advances in Horticultural Biotechnology. Molecular Markers and Marker Aided Selection – Vegetables, Ornamentals and Tuber Crops. Ed. HP Singh. Vol. 2.

Khar A, **Asha Devi A** and Lawande KE. Garlic. In: Advances in Horticultural Biotechnology. Molecular Markers and Marker Aided Selection – Vegetables, Ornamentals and Tuber Crops. Ed. HP Singh. Vol. 2.

### **B.14**

Standardized protocol for induction of haploids *via* gynogenesis in short day onion for the first time in India using unopened flower bud explants, where > 80% haploids were obtained.

#### **Variety release**

Bhima Omkar, a short day garlic variety, developed through clonal selection was released in 2009, which was identified for high yield and better quality, recommended for cultivation in Gujarat, Haryana, Rajasthan and Delhi.

Bhima Kiran, a new light red onion variety for *rabi* season was released in 2011.