Biodata of the Scientist

Division/Section: **Division of Crop Improvement, CTCRI, Trivandrum w.e.f.11/03/2013**

A.Personal information

1. Name (With Title): **ASHA K.I.**

1. Qualification: M.Sc. Botany, M.Phil. Botany, Ph. D. Botany, B.Ed. Natural Science

2. Designation: Principal Scientist

3. Address (Personal): Akarathin Vilakom, T.C.43/427, Valiya Veedu Lane, House No.8, Kamaleswaram, Manacaud P.O., Trivandrum-695 009, Kerala, India

4. Phone Numbers:

(a) Residence: 0471-2460046 (b) Intercom: _____ (c) Mobile: 9495980412

5. Email: ashakarthy@gmail.com

6. Countries visited: Nil

B. Professional information

1. Area of specialization: Plant genetic resources management and conservation

2. Area of interest: Conservation of genetic resources of root and tuber crops

3. Number of institute projects completed (Add list): 5 (At NBPGR, Thrissur - Annexure-1)

4. Number of Institute projects being handled (Add list): 4 sub-projects under 2 projects at CTCRI w.e.f.11/03/2013 - Annexure-2)

5. Number of externally funded projects completed (Add list): 3 (At NBPGR, Thrissur - Annexure-3)

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

7. Number of students guided for a) Ph.D_____b) M.Phil_____c) M.Sc_____

1. Two M. Sc. (Biotechnology) students of Bharath College of Science and Management, Thanjavur, Tamil Nadu, trained in tissue culture in *Bacopa monnieri* and cassava.
2. Trained one M.Sc. student (Biotechnology), Seethalakshmi Ramaswamy College, Tiruchirapalli in tissue culture one on shoot induction and multiplication in *Dioscorea intermedia* Thw.
3. An M.Sc. student (Plant Science), MES Asmabi College, Thrissur, Kerala has carried out a project on “Characterization of Greater yam (*Dioscorea alata* L.) for Juvanile Qualitative Morphological Traits”.

8. Number of students being guided for a) Ph.D_____b) M.Phil_____c) M.Sc_____

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

9. Information on guide ship

Guide ship for Ph.D/ M.Phil/ M.Sc.	University	Subject

10. Number of Research papers (Add list): (Annexure-4)

11. Number of Books/Book chapters (Add list): (Annexure-5)

12. Number of Technical Bulletins (Add list): (Annexure-6)

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

14. Technologies developed (Add list and give a brief description): Promising accessions identified in different field and horticultural crops, *in vitro* propagation and conservation protocols standardized for different tuber crops and spices.

15. Patents/Copyrights obtained (Add list and give a brief description): Annexure-7

16. Any other information: Joined ICAR on 14/09/1993 at NAARM, Hyderabad; attachment training at CTCRI, Trivandrum in 1994; At NBPGR Regional Station, Vellanikkara, Thrissur w.e.f.18/01/1995 to 09/03/2013; Joined CTCRI, Trivandrum on 11/03/2013.

Institute projects completed: At NBPGR (Annexure-1)
Project-1 (PGR/GEV-BUR-THR-01.01): Augmentation, characterization, evaluation, maintenance, regeneration, conservation, documentation and distribution of genetic resources of field crops and their wild relatives
Project-2 (PGR/GEV-BUR-THR-01.02): Augmentation, characterization, evaluation, maintenance, regeneration, conservation, documentation and distribution of genetic resources of tuber and fruit crops and their wild relatives
Project-3 (PGR/GEV-BUR-THR-01.03): Augmentation, characterization, evaluation, maintenance, regeneration, conservation, documentation and distribution of genetic resources of wild relatives of crops and economically important species (spices, medicinal & aromatic plants)

Project-4 (PGR/GEV-BUR-THR-02.00): Use of *in vitro* technology for mass propagation and conservation of clonally / vegetatively propagated crops and their wild relatives
Project-5: National Network Project on Arid Legumes
Institute projects being handled : At CTCRI (Annexure-2)
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
Externally Funded projects completed: At NBPGR (Annexure-3)
USIF Project No. IN-ARS-862: Regeneration of Agri-biodiversity of Agri-horti-crops, their wild and weedy relatives and other economically useful plants of south India
USIF Project No. IN-ARS-863: Use of *in vitro* technology for mass propagation and conservation of clonally / vegetatively propagated crops and their wild relatives

Research papers published (Annexure-4):

Velayudhan, K.C., B.T.S. Gowda and **K.I. Asha**, 1997. *Brachiaria ramosa* (L.) Stapf.: an underutilized millet of Southern India. *IPGRI Newsletter for Asia, the Pacific and Oceania*. No.**23**: 26
Velayudhan, K.C., Muralidharan, V.K., Amalraj, V.A. and **K.I. Asha**. 1998. Genetic resources of yams of Western Ghats. *Indian J. Pl. Genet. Resources* 11(1): 69-80.
Velayudhan, K.C and **K.I. Asha**. 1998. A note on incidence of Cassava Mosaic Disease (CMD) in cassava collections. *Indian J. Pl. Genet. Resources.* 11(1): 97- 101.
Joseph John, K., M. Abdul Nizar, **K.I. Asha** and K.C. Velayudhan. 1999. A new record of natural stands of *Psidium guineense* Swartz from Kollam, Kerala, India. *Indian J. Pl. Genet. Resources* 12 (1): 112-114.
Anantharaman, M., G. Suja and **K.I. Asha**, 1999. Indigenous knowledge of cassava farmers and its scientific rationality. *J. Root Crops* 25 (1): 29-32
Asha, K.I and Maya C Nair. 2001. Incidence of Anthracnose in Indigenous Germplasm of *Dioscorea alata* L. *Ind. J. Plant Genet. Resources* 14 (1): 78-80.
Asha. K. I. and Maya C. Nair. 2002. Ethnic knowledge system on wild Dioscoreas (yams) by the Kanikkars of Southern Western Ghats, Kerala. *Indian J. P. Genet. Resources:* 15(3): 146 – 149.

Asha.K.I., Maya C. Nair and Liji .R.S. 2002. Determination of leaf area in *Dioscorea alata* L. - A critical analysis. *Indian J. Pl. Genetic Resources:* 15 (3): 143 – 145.
Asha K.I. and Maya C. Nair. 2003. Characterization and Evaluation of an indigenous Collection of Greater Yam (*Dioscorea alata* L.). *Indian J. Pl. Genet. Resources*: 16(1): 13-17.
Velayudhan K.C., V.A. Amalraj, Z. Abraham and **K.I. Asha** 2003. Six new cultivars of *Curcuma longa* L. (Zingiberaceae) from India. *Rheedia* 13(1-2): 63-69.
Asha K.I. and Maya C. Nair. 2004. Inter-relationships in morphotypes of greater yam (*Dioscorea alata* L.). *Indian J. Plant Genet. Resour.* 17(2): 148-153.
Asha K.I. and Nair G.M. 2005. Screening of *Dioscorea* species for Diosgenin from Southern western Ghats of India. *Indian J. Plant Genet. Resour.* 18(2): 227-230.
Asha K.I. and Nair G.M. 2005. Direct organogenesis in *Dioscorea* species. *Indian J. Plant Genet. Resour.* 18 (3).
Asha K.I., GM Nair, M Padmesh, M.C. Nair and J.V. Reji. 2006. Interrelationships Among Species of *Dioscorea* Revealed by Morphological Traits and RAPD Markers. *Indian Journal of Plant Genetic Resources*. 19(1): 40-46.
Asha K.I. and Nair G.M. 2007. *In vitro* bulbil induction in *Dioscorea* species. *Journal of Root Crops*. 33(2): 81-87.
Asha K.I. and Nair G.M. 2007. Shoot Multiplication in *Dioscorea* species. *Indian Journal of Plant Genetic Resources*: 20(2): 130-136.
Asha K.I. and Nair G.M. 2008. Standardization of Callus Induction and Shoot Regeneration in Twelve Species of *Dioscorea*. *IJPGR*. 22(3): 17-21.
Asha K.I., A. Indira Devi, N.K. Dwivedi and R. Asokan Nair. 2012. *In vitro* propagation of Lesser Galangal (*Alpinia calcarata* Rosc.) - a commercially important medicinal plant through rhizome bud culture. *Research in Biology* 2(5): 13-17.
Asha K.I., A. Indira Devi, N.K. Dwivedi and R. Asokan Nair. 2013. *In vitro* regeneration of Brahmi (*Bacopa monnieri* (Linn.) Pannell).) - an important medicinal herb through nodal segment culture. *Research in Plant Biology* 3(1): 01-07.

Book Chapters/Books (Annexure-5):

Velayudhan, K.C., V.A. Amalraj, Z. Abraham, K. Joseph John, M. Abdul Nizar and **K.I. Asha**, 1999. Wild crop genetic resources of Silent Valley with special reference to *in situ* conservation of *Piper* species. *In* T.M. Manoharan *et al*. (Ed.) *Silent Valley – Whispers of Reason*. Kerala Forest Department, Thiruvananthapuram. pp 217-223.

Asha K. I., M. Latha, Z. Abraham, P.K. Jayan, Maya C. Nair and S.K. Mishra 2006. Genetic Resources In: *Horsegram in India*. Kumar D (Ed.), *Scientific Publishers*, Jodhpur. pp.11-28.

Abraham Z., M. Latha, **K.I. Asha**, Cherian Varghese, S. Lakshmi Narayanan and S.K. Pareek 2006. Minimal Descriptors of Agri-Horticultural Crops Part V: Spices, Tubers and Plantation Crops, NBPGR Regional Station, Thrissur. pp.1-102.

Technical Bulletins (Annexure-6):

Velayudhan K.C., **K.I. Asha**, C. Rajalakshmi and R.S. Liji 2003. Cassava Genetic Resources. *Scientific Monograph No.5.* NBPGR Regional Station, Thrissur.

Abraham Z, K Joseph John, **KI Asha**, M Latha, SK Malik and Rekha Chaudhury 2009. Collection and conservation of under-utilized plants. *In* Ramachandran VS (Ed.). Proceedings of National Seminar on "*Recent Trends in the Conservation and Utilization of Under-utilized Wild Edible Plants"* (CUWEP-2009). Dept. of Botany, School of Life Sciences, Bharathiar University, Coimbatore, Tamil Nadu pp 2-29.

K.C. Velayudhan, Z. Abraham, K. Joseph John, M. Abdul Nizar, **K.I. Asha**, M. Latha, M. Unnikrishnan, R.S. Liji and R. Brindha (2010). Wild and weedy relatives of crop plants of Western Ghats, India. In: Abstracts of paper presented in first Indian Biodiversity congress held at Thiruvananthapuram, 28-30, December, 2010.

K. Joseph John, **K.I. Asha**, M. Latha, Z. Abraham and N. K. Dwivedi 2012. National Bureau of Plant Genetic Resources, Regional Station, KAU (P.O.), Thrissur-680 654, Kerala, India - a colour brochure in Hindi.

Z. Abraham, K.C. Velayudhan, K. Joseph John, M. Abdul Nizar, **K.I. Asha** and R. Asokan Nair, 2001. National Bureau of Plant Genetic Resources, Regional Station, Vellanikkara, Thrissur-680 654, Kerala, India - a colour brochure in Malayalam.

Annexure-7

Genetic Stocks developed and registered with ICAR

Four unique germplasm accessions in 4 *Dioscorea* spp. (IC202382, *Dioscorea pubera*; IC202383, *Dioscorea spicata*; IC202370, *Dioscorea hispida* and IC202328, *Dioscorea hamiltonii*) as source of diosgenin detected and quantified for the first time, which in future can be exploited as new sources for diosgenin.

New taxa reported: A new taxon *Curcuma amada* Roxb. var. *Glabra*, a finger bearing species of the genus *Curcuma* L. of Western Ghats was reported from Kerala.

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