

NAME AND DESIGNATION Dr.C. INDURANI, Ph.D., PDF (Australia)

Associate Professor (Horticulture)
Dept. of Floriculture and Landscape Architecture
Horticultural College and Research Institute for Women
Tamil Nadu Agricultural University
Trichy - 620 027, Tamil Nadu, India

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ACADEMICS

| Degree | Subject | Year | OGPA | Institute |
|--------|----------------------------------|------|---------------------------|---|
| PDF | Post harvest Technology | 2018 | - | University of South Australia, Adelaide |
| Ph.D | Horticulture | 2002 | First Class 9.58/10.00 | Tamil Nadu Agricultural University, Coimbatore |
| M.Sc. | Horticulture | 1999 | First Class 9.37/10.00 | Tamil Nadu Agricultural University, Coimbatore |
| B.Sc. | Horticulture | 1997 | First Class 8.85/10.00 | Tamil Nadu Agricultural University, Coimbatore |
| NET | Horticulture - Vegetable Science | 2001 | - | Agriculture Scientists Recruitment Board, ICAR, New Delhi |

Ph.D. Thesis: Studies on the development of F₁ hybrids in tomato (*Lycopersicon esculentum* Mill.) for high yield and processing qualities with resistance to root knot nematode (*Meloidogyne incognita*)

M.Sc. Thesis: Studies on the development of F₁ hybrids in okra (*Abelmoschus esculentus* (L.) Moench) with high yield and resistance to yellow vein mosaic virus

PROFESSIONAL EXPERIENCE

| Designation | Institute | Period | Duration |
|------------------------------------|--|------------------------|------------------------|
| Teaching Assistant (Horticulture) | Tamil Nadu Agricultural University, Coimbatore | Dec 2004 to May 2006 | 1 year 6 months |
| Assistant Professor (Horticulture) | Tamil Nadu Agricultural University, Coimbatore | June 2006 to May 2018 | 12 years, |
| Associate Professor (Horticulture) | Tamil Nadu Agricultural University, Coimbatore | June 2018 to till date | 1 year 6 months |
| TOTAL SERVICE | | | 15 years |

AWARDS AND RECOGNITIONS

| Name of the Award | Year | Remarks |
|---|------|---|
| Junior Scientist of the Year | 2004 | NESA, New Delhi |
| TNAU Award in recognition of the efforts in receiving an Externally funded scheme "Dynamic Market Information Support for Agri-Horti produces through InDG Portal" sponsored by InDG-C-DAC-JNTU, Hyderabad | 2010 | Tamil Nadu Agricultural University, Coimbatore, India |
| TNAU Award in recognition of the efforts in receiving an Externally funded scheme "Phase II Dynamic Market Information Support for Agri-Horti produces through InDG Portal" sponsored by InDG-C-DAC-JNTU, Hyderabad | 2010 | Tamil Nadu Agricultural University, Coimbatore, India |
| Best Poster Award | 2014 | 6 th Indian Horticulture Congress, Tamil Nadu Agricultural University, Coimbatore, India |
| Best Oral presentation award | 2015 | 1 st National Conference, TANUVAS, Chennai |
| NFP Fellowship for the short course on Lost harvest and wasted food | 2015 | Centre for Development Innovation, Wageningen UR |
| Best Teacher Award | 2016 | Tamil Nadu Agricultural University, Coimbatore, India |
| Endeavour Research Fellowship for Post-Doctoral Research | 2018 | Ministry of Education and Training, Government of Australia |

Innovative Technology or Participatory Technology developed / Product development

| Sl. No. | Contribution made | Office | Year |
|---------|---|--|-------------|
| 1 | Agri Tech portal | Directorate of Extension Education, TNAU, Coimbatore | 2008 – 2010 |
| | Through Dynamic Market Information (DMI) project funded by C-DAC, Hyderabad, technology was developed to provide daily market price information over 137 agricultural commodities integrating five major markets in South India such as Chennai, Bangalore, Cochin, Coimbatore and Ottanchattram. The market information is available at 1.00 pm on daily basis in bi-lingual language (English and Tamil) in TNAU website. | | |
| 2 | Daily market price information through mobile phones as SMS | Directorate of Extension Education, TNAU, Coimbatore | 2009 – 2010 |
| | Through Dynamic Market Information (DMI) project funded by C-DAC, Hyderabad, technology was developed to provide daily market price of agricultural commodities through mobile phones as Short Message Service (SMS). Nearly 100 KVK scientists and 700 farmers availed the Market Price Information through Mobile. | | |
| 3 | Registered farmers associations and Agro service Limited company were established | Directorate of Extension Education, TNAU, Coimbatore | 2007 – 2009 |
| | Precision farming project was executed in 400 ha in farmer's fields in Dharmapuri and Krishnagiri districts. To sustain the production and marketing, 10 registered farmers associations were established. One Agro service Limited company was established in Dharmapuri District by precision farmers. | | |
| 4 | Released Tamarind deseeder during 2016 in TNAU, Coimbatore | | |

PUBLICATIONS

| | |
|---------------------|--------------------------|
| Research paper | : 48 (International: 26) |
| Thesis/Project work | : 15 |
| Conference paper | : 40 |
| Books | : 04 |
| Book Chapter | : 35 |
| Manual | : 15 |
| Popular article | : 75 |



INTERNATIONAL

1. Arumuganathan, T, R.D. Rai, **C. Indu Rani**, B.L.Dhar and Anil Kumar Hemakar. 2004. Rehydration characteristics of dried *Pleurotus florida*. (Eds. C.P.Romaine, C.B.Keil, D.L.Rinker, D.J.Royse) Proceedings of the XVIth International congress on the science and cultivation of edible and medicinal fungi at Miami, Florida, USA, 14-17^h March 2004, *Mushroom Science*. XVI: 393-396.
2. Ahlawat, O.P, Kusum Ahlawat, **C. Indu Rani**, B. Vijay and B.L. Dhar. 2004. Chemical composition and enzymatic activity of spent paddy straw and oyster mushroom substrates. (Eds. C.P.Romaine, C.B.Keil, D.L.Rinker, D.J.Royse) Proceedings of the XVIth International congress on the Science and cultivation of edible and medicinal fungi at Miami, Florida, USA, 14-17^h March 2004, *Mushroom Science*. XVI: 553-558.
3. Arumuganathan, T, R.D.Rai, **C. Indu Rani** and Anil Kumar Hemakar. 2004. Rehydration characteristics of the button mushroom (*Agaricus bisporus*) dried by different drying methods. *Mushroom Research*. 12(2): 121-123.
4. Gupta, P, **C. Indu Rani**, O.P. Ahlawat, B. Vijay and V. Mediratta. 2004. Physico-chemical properties of spent mushroom substrates of *Agaricus bisporus*. *Mushroom Research*. 13(2): 84-91.
5. Arumuganathan, T, R. Kailappan and **C. Indu Rani**. 2004. Production of activated carbon from Kiluvai (*Commiphora berryi* (Arn.) Engl.). *SAARC Journal of Agriculture*. 2: 232-242.
6. **Indu Rani, C**, and D. Veeraragavathatham. 2008. Studies on heterosis in Root knot nematode (*Meloidogyne incognita*) resistant hybrids in tomato (*Lycopersicon esculentum* Mill.). *The Asian Journal of Horticulture*. 3(1): 40-44.

7. Sanjutha, S, S. Subramanian, **C. Indu Rani** and J. Maheswari. 2008. Integrated Nutrient Management in *Andrographis paniculata*. *Research Journal of Agriculture and Biological Sciences*, 4 (2): 141-145.
8. **Indu Rani, C**, D. Veeraragavathatham and S.Sanjutha. 2008. Studies on Correlation and Path Coefficient analysis on Yield Attributes in Root Knot Nematode Resistant F1 Hybrids of Tomato. *Journal of Applied Sciences Research*, 4(3): 287-295.
9. **Indu Rani, C**, D. Veeraragavathatham and S. Sanjutha. 2008. Analysis on Biochemical Basis of Root knot nematode (*Meloidogyne incognita*) Resistance in Tomato (*Lycopersicon esculentum* Mill.). *Research Journal of Agriculture and Biological Sciences*, 4(6): 866-870.
10. **Indu Rani, C**, I. Muthuvel and D. Veeraragavathatham. 2009. Evaluation of 14 Tomato Genotypes for Yield and Root Knot Nematode Resistance Parameters. *Pest Technology*. 3(1): 76-80.
11. **Indu Rani, C**, D. Veerargavathatham and M. Prabhu. 2009. Heterosis studies in tomato (*Lycopersicon esculentum* Mill.) hybrids for root and biochemical characters for root knot nematode resistance. *Advances in Environmental Biology*. 3(2): 120-124.
12. Arumuganathan, T, M.R. Manikantan, **C. Indurani**, Vinay khare, R.P. Tewari and R.D. Rai. 2009. Influence of drying methods on the texture profile characteristics of the button mushroom *Agaricus bisporus*. *Mushroom research*. 18(1): 21-24.
13. Arumuganathan. T, M.R. Manikantan, **C. Indu Rani**, R.D. Rai and S. Kamal. 2010. Texture and quality parameters of oyster mushroom as influenced by drying methods. *International Agro physics*. 24:339-342.
14. **Indu Rani, C** and D. Veeraragavathatham. 2011. Combining ability and gene action for yield and processing qualities in F₁ tomato (*Lycopersicon esculentum* Mill.) hybrids. *International Journal of Plant Breeding*. 5 (1): 1-9.
15. Kiran Nagajjanavar, V. Thirupathi and **C. Indu Rani**. 2012. Effect of product free volume ratios on the respiration rate of tuberose (*Polianthes tuberosa*) flowers. *International Journal of Processing and Post Harvest Technology*. 3 (1): 91-93.
16. Arumuganathan, T, M. Ramanathan, A.S. Krishnamoorthy, R.D Rai, M.R. Manikantan, **C. Indu Rani** and S. Anandakumar. 2012. Studies on modified atmosphere storage of button mushroom using diffusion channel system. *Mushroom Research*, 21(1): 55-65.
17. Rajkumar, P, **C. Indu Rani** and R.Visvanathan. 2016. Development and Evaluation of Improved TNAU Mini Dhal Mill. *AMA Agricultural Mechanization in Asia, Africa and Latin America*. 47(4): 60-65.
18. **Indu Rani, C**. 2015. Studies on the influence of Pre harvest Treatments on Post harvest Quality of *Aggregatum* Onion. *Trends in Biosciences*. 8(11): 2977-2984.
19. Rajkumar, P., **C. Indu Rani**, N. Wang, and G. S. V. Raghavan. 2015. Classification of banana fruit maturity using zNose. *Agricultural Engineering International: CIGR Journal*, 17(4): 407-414.

20. Manikantan, M.R, T. Arumuganathan, **C. Indu Rani**, R. Kasturi and N. Varadharaju. 2017. Storage stability of sugarcane juice in polypropylene based nanocomposite packaging films. *Sugar Tech*, 19(4): 438-445.
21. Arul Selvam, T, S. Ganapathy, **C. Indu Rani**, A. Surendrakumar and T. Sathyanarayanan. 2018. Electrical properties of Indian banana cultivars during ripening. *International Journal of Agriculture Sciences*, 10 (3): 5140-5144.
22. Ashwini, T, S. Ganapathy, K.S Subramanian, **C. Indu Rani** and G. Gurumeenakshi. 2018. Effect of hexanal vapour on postharvest quality and shelf life of banana Var. Grand Naine. *International Journal of Current Microbiology and Applied Sciences*, 7(2): 2441-2450.
23. Shabina N, **C. Indu Rani**, J. Auxcilia and S. Ganapathy. 2019. Enhancing the postharvest shelf life and quality of papaya fruits using different packaging materials and storage conditions. *International Journal of Chemical Studies*, 7(3): 100-103.
24. **Chandrasekaran, Indurani**, Shubham Subrot Panigrahi, Lankapalli Ravikanth, and Chandra B. Singh. 2019. Potential of Near-Infrared (NIR) Spectroscopy and Hyperspectral Imaging for Quality and Safety Assessment of Fruits: an Overview. *Food Analytical Methods*: 1-21. (NAAS rating: 8.25 DOI: 10.1007/s12161-019-01609-12019).
25. **Indu Rani, C.**, V. Thirupathi, T. Arumuganathan and R. Sasireka. 2019. Development of value added foods from underutilized deseeded moringa pods. *Acta Horticulturae*. 1241, 555-562.
26. Amirtham, D., J. Aswini Nivedida, K. Dhivya, S. Ganapathy, **C. Indurani**. 2019. Evaluation of dehydrated *Mukia maderaspatana* leaves as a potent source of dietary antioxidants. *International Journal of Research – GRANTHAALAYAH*, 7(6): 27-36.

NATIONAL

1. Muthuvel, I, D. Veeraragavathatham, S. Sendur kumaran and **C.Indu Rani**. 2000. Studies on pollen viability and pollen germination in relation to fruit set in tomato under high temperature regime. *Madras Agricultural Journal*. 88 (1-3): 163-165.
2. **Indu Rani, C.**, D. Veeraragavathatham and I. Muthuvel. 2002. Genetic analysis in Okra (*Abelmoschus esculentus* (L.) Moench). *Madras Agricultural Journal*. 89 (7-9): 427-429.
3. **Indu Rani, C.**, D. Veeraragavathatham and I. Muthuvel. 2002. Combining ability analysis in certain Okra (*Abelmoschus esculentus* (L.) Moench) hybrids and parents. *Madras Agricultural Journal*. 89 (10-12): 608-612.
4. **Indu Rani, C.**, D. Veeraragavathatham and I. Muthuvel 2003. Performance of parents and hybrids of Okra (*Abelmoschus esculentus* (L.) Moench). *Madras Agricultural Journal*. 90 (4-6): 322-325.

5. **Indu Rani, C** and D. Veeraragavathatham. 2004. Combined inheritance of resistance for spotted wilt and leaf curl virus in tomato (*Lycopersicon esculentum* Mill.). *South Indian Horticulture*. 52 (1-6): 65-69.
6. **Indu Rani, C**, D. Veeraragavathatham and J. Auxillia. 2004. Studies on the Development of F₁ hybrids in Okra (*Abelmoschus esculentus* (L.) Moench) for High Yield and Resistance to Yellow Vein Mosaic Virus. *South Indian Horticulture*. 51(1-6): 219-226.
7. **Indu Rani, C** and D. Veeraragavathatham. 2005. Genetic variability, heritability and genetic advance in okra (*Abelmoschus esculentus* L.Moench). *Indian Journal of Horticulture*. 62 (3): 303-305.
8. **Indu Rani, C** and D. Veeraragavathatham. 2006. Association of yield and yield components in Okra (*Abelmoschus esculentus* (L.) Moench). *Indian Journal of Horticulture*. 63 (3): 343-344.
9. Ahlawat, O.P, M.P. Sagar, Dev Raj, **C. Indu Rani**, Gupta Pardeep, and B. Vijay. 2007. Effect of spent mushroom substrate yield and quality of Capsicum. *Indian Journal of Horticulture*. 64 (4): 430-434.
10. Sagar, M.P, O.P. Ahlawat, Dev Raj, B Vijay and **C Indu Rani**. 2009. Indigenous technical knowledge about the use of spent mushroom substrate. *Indian Journal of Traditional Knowledge*. 8 (2): 242 - 248.
11. Ahlawat, O.P, Dev Raj, **C. Indu Rani**, M.P. Sagar Pardeep Gupta, and B. Vijay. 2009. Effect of spent mushroom substrate recomposted by different methods and of different age on vegetative growth, yield and quality of tomato. *Indian Journal of Horticulture*. 66 (2): 208-214.
12. **Indu Rani, C**, I.Muthuvel and D.Veeraragavathatham. 2010. Correlation and path coefficient for yield components and quality traits in tomato (*Lycopersicon esculentum* Mill.). *Agricultural Science Digest*. 30(1): 11-14.
13. Hemalatha, P, E.Vadivel, K.Rajamani, R.Gnanam and **C.Indu Rani**. 2010. Influence of growth regulators on cell suspension culture in *Andrographis echinoides* (L.) Nees. *South Indian Horticulture*. 58: 160-162.
14. Kiran Nagajjanavar, V. Thirupathi, M. Balakrishnan, **C. Indu Rani** and R. Kasthuri. 2012. Effect of Pre-Treatments and Packaging Materials on Ethylene Evolution of Jasmine (*Jasminum sambac*) Flower Under Ambient and Refrigerated Storage Condition. *Environment & Ecology*. 30 (3A): 806-809.
15. **Indu Rani, C**. 2015. Heterosis for Yield and YieldComponents in Okra (*Abelmoschus esculentus* (L.) Moench). *Trends in Biosciences*, 8(18): 4789-4791.
16. **Indu Rani, C**. 2016. Effect of pre-harvest treatments on storage and quality of Aggregatum onion in ventilated storage structure. *Madras Agric. J.*, 103 (1-3): 67-71.
17. Deepa, J, P. Rajkumar and **C. Indu Rani**. 2016. Ethylene Ripening Studies in Mango var. Banganapalli. *Madras Agric. J.*, 103 (1-3): 72-77.

18. Asha Monika, A, P. Rajkumar and **C. Indu Rani**. 2016. Microencapsulation of Carotenoid from Pumpkin Pulp by Spray Drying. *Advances in Life Sciences*, 5 (18): 7873-7876.
19. Krishnakumar. P, R. Kailappan, R. Pandiselvam, V. Thirupathi and **C. Indu Rani**. 2017. Engineering properties, thin layer and deep bed sun drying kinetics of cluster beans (*Cyamopsis tetragonoloba L.*), *Green Farming*, 8 (3): 743-748.
20. Asha Monicka, A, T. Pandiarajan, S. Ganapathy, **C. Indu Rani** and R. Sathy. 2017. Characterization of attributes in dehusked coconut. *Journal of Agricultural Engineering*, 54 (4): 36-42.
21. Asha Monicka, A, **C. Indu Rani** and P. Rajkumar. 2017. Storage stability and antioxidant activity of encapsulated carotenoid from pumpkin pulp. *Madras Agricultural Journal*, 104 (10-12): 415-419.

UG COURSES HANDLED : 40

PG COURSES HANDLED : 10

Ph. D. COURSES HANDLED : 05

RESEARCH PROJECTS HANDLED

EXTERNALLY FUNDED PROJECTS (13)

PI: UGC Project- Development of farm level ripening chamber for fruit ripening

PI: ICAR Tribal Sub Plan Project – Training and demonstration of Post harvest Technology and value addition.

Co-PI: Govt of Tamil Nadu funded Project - Tamil Nadu Precision Farming Project for Dharmapuri and Krishnagiri Districts.

Co-PI: Govt of Tamil Nadu funded Project - State Agricultural Marketing and Extension Training Institute (SAMETI).

Co-PI: Ministry of Communications, Govt of India funded Project - Dynamic Market Information Support for Agri-Horti Produces through www.indg.in portal.

Co-PI: MoFPI Project - Development and Evaluation of a Tamarind fruit Dehuller and Deseeder.

Co-PI: MoFPI Project - Assessment of harvest and post harvest losses of major crops, live stocks production in India.

Co-PI: Govt of Tamil Nadu funded Project - Development of Kavunji village as corporate village under Precision Farming clusters in Tamil Nadu.

Co-PI: Govt of Tamil Nadu funded Project - Technological Demonstration in Precision farming.

Co-PI: Govt of India funded Project - National Agricultural Development Programme on Precision Farming (2007-08) and (2008-09)

Co-PI: TNAU- VCS Scheme on TFL Vegetable seed Production.

Co-PI: TNAU- VCS Scheme on TFL Vegetable seed Production.

Co-PI: Ministry of Human Resource and Development funded project – SPARC - Development of novel methods for aflatoxin mitigation and management practices for value addition in Chillies in India.

Co -PI: NABARD funded project: Doubling the Farmers Income.

UNIVERSITY PROJECTS (3)

PI: Studies on pre harvest treatments on post harvest quality of elephant foot yam and aggregatum onion.

PI: Studies on extraction of protein from deseeded moringa pods.

PI: Evaluation and standardization of post harvest curing methods and curing parameters to increase the shelf life of aggregatum onion during storage.

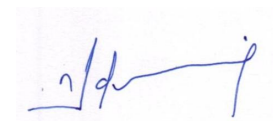
STUDENTS GUIDED

| | Masters : 3 (As guide) and 14 (As member) | | |
|--------------------|---|------------------------|-------------|
| | Ph.D : 4 (As member) | | |
| S.No. | Title of the thesis | Name of the student | year |
| As chairman | | | |
| 1. | Modified atmospheric packaging of guava | B.D.Pankaja | 2014 - 2016 |
| 2. | Effect of packaging materials and storage environment on shelf life and quality of TNAU Papaya Co.8 | N. Shabina | 2015-2017 |
| 3. | Studies on the effect of various storage conditions and chemical treatments on the shelf life of guava (<i>Psidium guajava</i> L.) fruit | Amod Gautam | 2016-2018 |
| As member | | | |
| 1 | Development and evaluation of ripening chamber for fruits | Er.J.Deepa | 2009 -2011 |
| 2. | Studies on different storage methods for onion (<i>Allium cepa</i> L. Var. <i>aggregatum</i> Don) | Er.S.Prabinkumar | 2009 - 2011 |
| 3 | Fabrication and performance evaluation of onion umbels thresher | Er.R.Pandiselvam | 2010 - 2012 |
| 4 | Development and evaluation of tamarind huller cum deseeder | Er.J.Jansi Sheeba Rani | 2010 - 2012 |
| 5 | Encapsulation of carotenoids from pumpkin pulp | Er.A.Asha Monika | 2011 - 2013 |
| 6 | Studies on drying, packaging and storage characteristics of cluster bean (<i>Cyamopsis tetragonoloba</i> L) | Er.P.Krishnakumar | 2011 - 2013 |
| 7 | Studies on turmeric grading using FT-NIR spectroscopy | Er.K.Dhivya | 2013 - 2015 |
| 8 | Performance evaluation of driers for turmeric | Er.P.Pricy Niruba | 2014 - 2016 |
| 9 | Studies on development of continuous type of dryer for effective drying of dehulled tamarind and storage | Er. S. Idhayavarman | 2015-2018 |

| | | | |
|---------------------------|--|-------------------------|-------------|
| 10 | Development of colour sorter cum grader for tomatoes | Er. S. Abinaya | 2016 - 2018 |
| 11 | Design and development of a coconut dehusking machine | Er. J. S. Amudhayazhini | 2016 - 2018 |
| 12 | Studies on development of continuous type of dryer for effective drying of dehulled tamarind and storage | Er. S. Idhayavarman | 2015-2018 |
| 13 | Improvements in turmeric processing and their effects on the quality of dried rhizomes | Er. C. Nithya | 2016 - 2018 |
| 14 | Development of nano-film to enhance the shelf - life of fresh cut fruits and vegetables | T. Anu Priyadarshini | 2016 - 2018 |
| As member for Ph.D | | | |
| 1 | Development of a portable non-destructive firmness measuring device for banana | T. Arul selvam | 2014-2018 |
| 2 | Design and development of coconut grader | A. Asha Monicka | 2014-2018 |
| 3 | Hexanal vapour treatment to extend shelf life of mango and banana | T. Aswini | 2014-2018 |
| 4 | Comparative evaluation of storage of onion in cold chamber with ventilated stores | J. Aswini Nivedida | 2015-2018 |

CERTIFICATE

I hereby declare that all statements made in this bio-data are true and correct to the best of my knowledge and belief.



(C. INDU RANI)