

Biodata of the Scientist

Division/Section: Crop Protection

A. Personal information

1. Name (With Title): Dr(Mrs.) VEENA.S.S

1.a. Qualification: Ph.D

2. Designation: Principal scientist

3. Address(Personal): Aradhana, SRA-16, Sreemoolam Road, Kumarapuram, Thiruvananthapuram-695017

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5. Email: veenaashok@yahoo.com/veenaashok@gmail.com

6. Countries visited: __NIL_____

B. Professional information

1. Area of specialization: Plant pathology

2. Area of interest: Fungal Pathology, Biological Control

3. Number of institute projects completed (Add list): Eight (ANNEXURE-1)

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

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

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

7. Number of students guided for a) Ph.D_____b) M.Phil_____c) M.Sc 10

8. Number of students being guided for a) NIL

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): 39

11. Number of Books/Book chapters (Add list): 3

12. Number of Technical Bulletins (Add list): 3

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

14. Technologies developed (Add list and give a brief description): 16

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

16. Any other information:

ANNEXURE-1

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

1. **Path.11.3 (813):** Disease management in *Phytophthora* foot rot affected black pepper plantations
2. **Crop Prot 1.1. (813):** Screening germplasm for reaction to diseases
3. **Bio-control 1.1 (813):** Biological control of diseases of spice crops
4. **2.4.5:** Standardization of cultivation technology for *Ganoderma* spp.
5. **1.1.4:** Collection, documentation, characterization, conservation and evaluation of wild edible and medicinal mushrooms of Western Ghats
6. **2.4.4:** Cultivation technology of *Lentinula edodes*
7. **2.2.11:** Genetic improvement of biological efficiency of *Pleurotus florida*
8. **CS/A/PT/230:** Exploitation of vermicompost for eco-friendly management of taro leaf blight and collar rot of elephant foot yam

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

1. Management of Fungal Diseases of Aroids

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

1. Incorporation of bio-control in nursery plants for checking *Phytophthora* disease Pepper technology Mission, Government of Kerala
2. Use of bio-control for checking *Phytophthora* disease - Pepper technology Mission, Government of Kerala

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

1. AMAAS Project on Isolation and Development of plant Growth promoting organisms from high biodiversity region for tropical tuber crops
2. Leaf blight of Taro -Outreach Project on *Phytophthora*, *Fusarium* and *Ralstonia* diseases of Horticultural Crops

7. Number of students guided for M.Sc – 10

Name of the student	Course undergoing (Ph.D/M.Phi l/M.Sc)	Title of the project/Thesis	E-mail address
Nisha K G	M.Sc	Compatibility of biocontrol agent <i>Trichoderma harzianum</i> with various agrochemicals used for the management of pests and disease problems in black pepper	
Thanuja Bhanu	M.Sc	Cultural variability among indigenous isolates of medicinal mushroom, <i>Ganoderma</i> spp	
Gilda.M.T	M. Sc	Exploration of antifungal fungi from vermicompost – their physiological and biochemical characterization	
Manu M Stephen	M.Sc	Culture dependent bacteria of vermicompost origin: isolation, antifungal activity and biochemical and molecular characterization of potent isolate	
Resmi . J	M.Sc	Morpho - cultural and molecular characterization of pathogen causing new disease in cassava	
Drisy Ravi.	M. Sc	Variability in Antagonistic Potential and Molecular Characterization of <i>Trichoderma</i> spp of	

R.S		Vermicompost Origin	
Ansu Mathew	M.Sc	Exploring the potential of endophytes from taro to manage taro leaf blight and molecular characterization of most potent isolate	
Divya	M.Sc	Studies on variability in pathogen suppression potential of bacterial isolates of vermicompost origin and its molecular characterization	
Sabna. A	M. Sc	Beneficial effects of bacteria of vermicompost origin and their molecular characterization	
Harikrishnan.S	M. Sc	Studies on beneficial effects and molecular characterization of bacteria from organic field	

10. Number of Research Papers

1. Nath V S., Sankar M S., Hegde V M., Jeeva M L., Misra R S., Veena SS., Raj M (2013) Analysis of genetic diversity in *Phytophthora colocasiae* using AFLP and RAPD markers. **Annals of Microbiology**. Under Revision.
2. Nath V S., M S alias Sankar., V M Hegde., M L Jeeva., R S Misra., **SS Veena.**, Raj M (2013) PCR-based approach for mining of resistant gene analogues in taro (*Colocasia esculenta*). **Archives of Phytopathology and Plant Protection**, 46(7):803-812
3. Nath V S., Sankar M S., Hegde V M., Jeeva M L., Misra R S., Veena SS., Raj M (2013) Molecular evidence supports hyper variability in *Phytophthora colocasiae* associated with leaf blight of taro. **European Journal of Plant Pathology**. DOI: 10.1007/s10658-013-0181-z.
4. Nath V S., M S alias Sankar., V M Hegde., M L Jeeva., R S Misra., SS Veena., Raj M (2012) Genetic diversity of *Phytophthora colocasiae* isolates in India based on AFLP analysis. **3Biotech**. DOI 10.1007/s13205-012-0101-5. (Springer)
5. Nath V S., M S alias Sankar., V M Hegde., M L Jeeva., R S Misra., **SS Veena.**, Raj M (2012) Evaluation of fungicides on Indian isolates of *Phytophthora colocasiae* causing leaf blight of taro, **Archives of Phytopathology and Plant Protection**, 46(5):548-555
6. **Veena. S. S** and Meera Pandey (2012). Physiological and cultivation requirements of *Trametes versicolor*, a medicinal mushroom to diversify Indian mushroom industry. **Indian Journal of Agricultural Sciences** 82 (8): 672-675.
7. Vishnu Sukumari Nath, Muthukrishnan Senthil *alias* Sankar, Vinayaka Mahabaleswar Hegde, Muthulekshmi Lajapathy Jeeva, Raj Shekar Misra, **Syamala Swayamvaran Veena**, Mithun

Raj (2012). Analysis of Genetic Diversity in *Phytophthora colocasiae* using RAPD Markers. ***The Asian and Australasian Journal of Plant Science and Biotechnology***. 6(1): 38-43.

8. Vishnu Sukumari Nath, Muthukrishnan Senthil *alias* Sankar, Vinayaka Mahabaleswar Hegde, Muthulekshmi Lajapathy Jeeva, Raj Shekar Misra, **Syamala Swayamvaran Veena** (2012). A Simple and Efficient Protocol for Rapid Regeneration and Propagation of Taro (*Colocasia esculenta* (L.) Schott.) *in Vitro* from Apical Meristems. ***International Journal of Plant Developmental Biology*** 6 (1): 64-66
9. **Veena. S.S** and Meera Pandey (2012). Medicinal mushrooms - a novel crop for horticultural diversification in India. ***International Research Journal of Plant Science***. Vol. 3(1) :8-11
10. M. Nedunchezhiyan, S. K. Jata, G. Byju and **S. S. Veena** (2011). Effect of Tuber CropWastes/Byproducts on Nutritional and Microbial Composition of Vermicomposts and Duration of the Vermicomposting Process. ***Journal of Botany***. Volume 2011, Article ID 801703, 6 pages, doi:10.1155/2011/801703
11. **Veena. S.S** and Meera Pandey (2011). Paddy Straw as a Substrate for the Cultivation of Lingzhi or Reishi Medicinal mushroom, *Ganoderma lucidum* (W. Curt.:Fr.)P.Karst.in India. ***International Journal of Medicinal Mushrooms***, 13 (4): 397-400.
12. **Veena. S.S**, Manu M Stephen, Nedunchezhiyan M, Neetha Soma John, Anjana Devi I.P & Jeeva M.L (2011). Microbial diversity in vermicompost and its utilization as potential bio-control agents. In: M. S. Sajeev, M. Anantharaman, G. Padmaja, M. Unnikrishnan, V. Ravi, G. Suja and Vinayaka Hegde (eds). *Climate Change and Food Security: Challenges and opportunities for Tuber Crops*, CTCRI, Thiruvananthapuram.pp 394-398.
13. Meera Pandey and **Veena S.S.** (2011). Potential of Mushrooms in Commercial Agri-horticultural System *Proc. 98th Indian Science Congress*, 3-7th Jan 2011 at SRM University, Kattankulathur, Tamilnadu *Part II* : Abstracts of Symposium/Invited Lecture. pp 18-19
14. **Veena. S. S** and Meera Pandey (2010). A simple method for culture conservation of some commercial mushrooms. ***Mycosphere*** 1(3): 191-194.
15. **Veena. S. S** and Meera Pandey (2010) Effect of Spawn Substrate and Spawn rate on Cultivation of *Ganoderma lucidum*. ***Journal of Mycology and Plant Pathology*** 40(1): 158-161
16. **Veena. S. S**, Anadaraj, M & Sarma Y.R (2010). Variability in the sensitivity of *Phytophthora capsici* isolates to potassium phosphonate. ***Indian Phytopathology*** 63 (1):71-75
17. D. Minoo, V. N. Jayakumar, **S. S. Veena**, J. Vimala, A. Basha, K. V. Saji, K. Nirmal babu, K. V. Peter (2008) Genetic variations and interrelationships in *Vanilla planifolia* and few related species as expressed by RAPD polymorphism. ***Genet Resour Crop Evol*** 55:459-470.
18. Soudamini Mohapatra, Meera pandey, A. K. Ahuja, **Veena S. S**, Sandhya R (2008). Degradation of Lindane and Imidacloprid in soil by *Calocybe indica*. ***Pesticide Research Journal*** Vol 20 (1): 143-145
19. Anilkumar R, Vasu K, Suseela Bhai R, Velayudhan KT, **Veena. S.S**, Ramachandran V and Unnikrishnan G (2008). Translocation and distribution of ³² P labelled potassium

phosphonate in black pepper (*Piper nigrum* L). In: K.S. Krishnamurthy, D. Prasath, K. Kandiannan, R. Suseela Bhai, K.V. saji and V. A. Pathasarathy (Eds.). Piperaceae Crops- Technologies and Future Perspectives, Indian institute of Spices Research, Calicut, November, 2008. Pp 353

20. R. Suseela Bhai, M Anandaraj, Y R Sarma, **S S Veena** & K V Saji (2007). Screening of black pepper (*Piper nigrum* L.) germplasm for resistance to foot rot disease caused by *Phytophthora capsici* Leonian. **Journal of Spices and aromatic Crops** 16(2): 115-117.
21. Meera Pandey & **Veena S. S** (2007) Mushrooms for aesthetic Industry. *Mushroom Biology and Biotechnology* . Eds: R. D. Rai, S. K. Singh, M. C. Yadav and R P Tewari, Mushroom Society of india pp 259 – 264.
1. **Veena. S. S** & Meera Pandey (2006). Evaluation of the locally available substrates for the cultivation of indigenous *Ganoderma* isolates. **J. Mycol.Pl. Pathol** 36 (3) : 434 - 438.
2. **Veena. S. S** & Meera Pandey (2006) Effect of temperature and humidity on yield and quality parameters of *Ganoderma lucidum*. **Mushroom Research** 15(2): 125-128.
3. **Veena. S. S**, Anadaraj, M & Sarma Y.R (2006) Compatibility of Potassium Phosphonate with *Trichoderma harzianum*. **J. Mycol.Pl. Pathol.**36 (2) : 171-174
4. Meera Pandey and **Veena S.S.** 2004. Mushroom gardening –A novel aspect in landscaping. In: Sathanarayan Reddy B.S, Janakiram, T, Balaji S. Kulkarani and Naryanswamy P. (Eds). Emerging trends in Ornamental Horticulture.pp- 175-178.
5. P. Mohamed Shafi, M . K. Geetha Nambiar, Robin A. Clery, Y.R Sarma and **Veena,S.S** 2004. Composition and antifungal activity of the oil of *Artemesia nilagirica* (Clarke) Pamp, **Journal of Essential Oil Research** 16 : 377-379
6. Indira Devi, G . Geetha Parameswaran. and **Veena, S.S** (2004) Antifungal studies of transition metal complexes of schiff bases derived from anthracene carboxaldehyde-L-histidine. **Asian Journal of Chemistry** 16 (1): 493-500
7. Indira Devi, G . Geetha Parameswaran. and **Veena, S.S** (2004)Antifungal studies of transition metal complexes of schiff bases derived from anthracene carboxaldehyde-L-Tyrosine. **Asian Journal of Chemistry.** 16 (2): 884-890
8. Marykutty, P.V., Geetha Parameswaran. and **Veena, S.S** (2004). Physico- chemical Studies, Thermal Decomposition Kinetics and Antifungal Studies of some bivalent metal complexes of Camphor –2- aminophenol. **Asian Journal of Chemistry.** 16 (2): 891-898

9. Marykutty, P.V., Geetha Parameswaran. and **Veena, S.S** (2004). Structural and antifungal studies of metal complexes of 1,3- cyclohexane dione – 2 aminophenol and 2 amino thiophenol. *Proceedings of the XVI Kerala Science Congress, CWRDM, Kozhikode, Jan 29 - 31, 2004.*
10. Meera Pandey and **Veena. S. S.** (2003). Mushroom cultivation- An appropriate technology for the rural areas. *Proceedings of the International Seminar on Downsizing Technology for rural Development, RRL, Bhuvaneswar, Oct 7-9, 2003.* pp. 202-209.
11. Sarma, Y.R, Anandaraj, M, Suseela Bhai, R, **Veena, S.S** and Rajan, P.P 2002. Wrong Plant Disease Diagnosis results in heavy crop loss- Vanilla bean (pod) rot a case study. *ISS News letter* 4(1): 6
12. Sarma, Y.R., Anandaraj, M., Kumar, A & **Veena, S.S.** 2001 Phyllody disease of black pepper. *Indian Journal of Arecanut, Spices and Medicinal Plants.* 3: 18
13. **Veena, S.S.**and Peethambaran, C.K 2000 Variability of *Phytophthora capsici* isolates from black pepper. *Indian Phytopathology* 53 : 371
14. **Veena, S.S.**, Peethambaran, C.K and Sarma, Y.R 2000 *Phytophthora katsurae* Ko and Chang as the causal agent of bud rot of coconut in some parts of Kerala, India. *Proceedings –Indian Phytopathological Society –Golden Jubilee International Conference on Integrated Management for Sustainable Agriculture.*Vol I pp-495 –496
15. **Veena,S.S** and Sarma,Y.R 2000 Uptake and translocation of potassium phosphonate and its protection against *Phytophthora capsici* in black pepper. In: Ramana, K.V, Santhosh J Eapen, Nirmal Babu, K, Krishnamoorthy,K.S and Kumar,A (Eds.) *Spices and Aromatic plants- Challenges and Opportunities in the New Century*, Indian Society for Spices, Calicut, Kerala pp. 243-248.
16. Kumar, A, Anandaraj, M, Srinivasan,V, **Veena,S.S** and Sarma,Y.R 2000 Coconut water amended coirpith ; a conducive medium for mass multiplication of biocontrol agent *Trichoderma* spp. In: Ramana, K.V, Santhosh J Eapen, Nirmal Babu, K, Krishnamoorthy,K.S and Kumar,A (Eds.) *Spices and Aromatic plants- Challenges and Opportunities in the New Century*, Indian Society for Spices, Calicut, Kerala pp 267-273
17. **Veena, S.S.**and Peethambaran, C.K 1998 Biocontrol strategy for management of *Phytophthora* infection in black pepper. In: Damodaran,A.D (Ed.) *Proceedings of the 10th Kerala Science Congress* 2-4 Jan, 1998 , Kozhikode pp-147-150.
18. **Veena, S.S.**, Rema Devi,L and Peethambaran, C.K. 1993 Fluctuations in water potentials of leaf surface for the management of powdery mildew of pumpkin, *Cucurbita moschata*. In : Damodharan, A.D (Ed.)*Proceedings of the 5th Kerala Science Congress*, Kottayam.pp-149

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

1. Veena. S. S (Veena Ashok). 2011. History of Plant Pathology of Horticultural Crops. In: The Science of horticulture. K. V. Peter (ed). Vol. 1, New India Publishing Agency, New Delhi. pp 179-198.
2. Meera Pandey, Nita Khandekar and **Veena S.S.** 2011. Status and problems of mushroom industry in Karnataka – A Few case studies In: Diversity and Production of Edible Mushrooms. S. Kannaiyan, T. Marimuthu and K. Lenin (eds.) Associated Publishing Company. viii, 184 p,ISBN : 81-85211-91-4
3. Meera Pandey and **Veena S.S.** 2010. Medicinally important mushrooms. In Lifestyle Horticulture. Editors T. Janakiram, K.V. Prasad, K.P. Singh & Kishem Swaroop. Vol 48, page-118-124

12. Number of Technical Bulletins (Add list):

1. Vinayaka Hegde, M.L. Jeeva, T. Makesh Kumar. R.S. Misra and **S.S. Veena (2010)**. Diagnostic Techniques for Diseases of tropical Tuber crops. CTCRI, Thiruvananthapuram. 56 p
2. Meera Pandey, Tewari, R.P and **Veena,S.S** (2004) Technical bulletin on **Edible mushroom cultivation**
3. Anandaraj,M and **Veena,S.S** 2000 Diseases of Tree spices and Vanilla. In: Madan,M.S & Jose Abraham(Eds.) Spices Production Technology, Agricultural Technology Information Centre, Indian Institute of Spices Research, Calicut pp-84-85

14. Technologies developed (Add list and give a brief description): 16

1. P-24, the first *Phytophthora* tolerant black pepper variety was developed
2. IPM strategy for the management of foot rot disease in black pepper was developed involving bio-control agent, *Trichoderma harzianum* + potassium phosphonate.
3. Black pepper Hybrids/ cultivars/ lines with *Phytophthora* tolerance were identified for cultivation and incorporation in breeding programs.
4. Identification of vanilla accessions tolerant to *Phytophthora meadii* and *Fusarium* spp for cultivation in disease prone areas and in breeding programs.
5. Standardized complete package of cultivation technology of medicinal mushroom *Ganoderma lucidum* on sawdust (90%) + rice bran (10%) substrate combination
6. Standardized complete package of cultivation technology for *Ganoderma* on paddy straw based substrate formulation for the first time in world.

7. Standardized cultivation technology of medicinal mushroom *Trametes versicolor* for the first time in India
8. Arka OM-1, a new pink oyster mushroom variety was released and commercialized
9. Successful cultivation of mushroom *Hypsizygus ulamrius* – introduction of this mushroom to Indian Mushroom Industry was widely accepted and replaced oyster mushroom *Pleurotus* spp. At present, about 12-15 tons of Elm oyster seeds per annum is being sold to farmers in Karnataka, Andhra Pradesh, Tamil Nadu and Kerala
10. Successful cultivation of medicinal mushroom *Schizophyllum commune*
11. Standardized complete package of cultivation technology of medicinal mushroom shiitake (*Lentinula edodes*)
12. Successful cultivation *Pycnoporus cinnabarinus*, mushroom for aesthetic purpose and dye industry
13. A simple method of culture preservation of *Ganoderma* using sorghum grain was developed
14. Substrate sterilization period for *Ganoderma lucidum* was brought down from 2 h to 15 min to save power and time
15. Application of vermicompost to reduce incidence TLB in Taro
16. Application of vermicompost to reduce incidence Collar rot in Elephant foot yam

