

## BIO DATA

- 1) Name Vasudaevan Padmanabhan Potty  
2) Date of Birth 02 - 05 - 1945  
3) Nationality Indian  
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5) Passport No B 2594027 Date of Issue 09/08/2000  
Valid up to 08/08/2010 Place of issue Trivandrum  
6) Educational Qualification

Sl No	Degrees/Diploma	Specialisation	Year	Institution
1	B.Sc (Ag)	Agriculture	1968	Agri.College & Res.Institute
2	M.Sc (Ag)	Mycology and Plant Pathology	1970	"
3	Ph.D	Agri.Microbiology	1978	CPCRI,Kayangulam, Kerala University
4	D.Sc	Microbiology	1999	Kerala University

7) Marital status Married

8) Training and Exchange Programmes

1. ICAR training programme in advanced techniques in microbial biofertilizers at advanced centre for microbiology, Tamil Nadu Agricultural University, Coimbatore in 1984 (2 months).
- 2 Training programmes in computer application and soft ware handling at Institute of Government in Management, Trivandrum during 1991 (2 months)

9) Experience

SlNo	Positions held	year	Organiz ation	Location
1	Res.Asst	1972-75	ICAR	CPCRI,Kayangulam,Kerala,India.
2	Sr.Res.Asst	1975-75	ICAR	CPCRI, "
3	Scientist-S	1975-76	ICAR	CPCRI, "
4	Scientist -S1	1976-77	ICAR	CPCRI, "
5	Scientist -S1	1977-82	ICAR	CTCRI,Trivandrun,Kerala,India
6	Scientist -2	1982-86	ICAR	IARI,Hyderabad,India,
7	Sr.Scientist	1986-87	ICAR	IARI, "
8	Sr.Scientist	1988 -95	ICAR	CTCRI,Trivandrum
9	Princial Scientist	28/7/98 onwards	ICAR	CTCRI, "

10) Employment and Experience (current)

Currently employed as Principal Scientist (Microbiology) in Central Tuber Crops Research Institute, (Under ICAR) , at Trivandrum. Mainly working on various aspects of the PGPR and Mycorrhizal fungal association in tropical tuber crops like Cassava, Sweet Potato, Chinese Potato, Yams Aroids and Yam beans and its role in crop improvement, production nutrient uptake mechanism and interaction with other soil microbes like Azotobacter, Phosphobacterium and Nitrogen fixers. Host - microbe interaction also forms part of the study. Development of technologies for multiplication using latest biotechnological methods like growing AM fungi in root organ culture, storage and inoculation techniques in the field for mycorrhizal fungi also attending.

Apart from this, supervising students for the PG programmes leading to M.Sc and Ph.D in microbiology and biotechnology aspects of value addition of tuber crops by fermentation for enzyme production, Siderophore production, mass production of AM fungi for field application.

11)

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| a) Total Research Experience                                 | 32 years                               |
| b) Experience as supervising teacher for Doctoral programmes | 14 Years                               |
| c) Managerial experience                                     | 4 Years (as head of Microbiology unit) |

12) Awards and Honours

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|----------------------------------|---------|
| a) ICAR Junior Fellowship        | 1968-70 |
| b) Kerala Govt Merit Scholarship | 1968-70 |

13) Invited lectures/workshops/symposia

a) International

- 1 Sahsranaman, K.N, Pillai, N.G., Jayasankar, N.P., Potty, V.P., Thomas Varkey, Kamalakshy Amma, P.G., and Radha, K. (1975). Agrostology- Mixed farming in coconut gardens. Paper presented at the 4th session of FAO Tech. Wkg. Pty. Cocon. Prod. Prot. and Process., Kingston, Jamaica.
- 2 Potty, V.P and Hrishi N (1983) Endotropic mycorrhizal synthesis in *coleus parviflorus* and its introduction using lignite slurry as inoculating medium, Feb 23 - 26 Lima peru
- 3 Potty, V.P (1990) Effect of mycorrhization on sweet potato by *Glomus microcarpum* with Phosphobacterium in ultisols amended with rock phosphate. Presented at *Iner. Nat. Sym. on sweet potato Technology for 21st century*. June 2 - 6 Alabama, USA
- 4 Mohan kumar, C.R Potty, V.P., Ravindran, C.S, Kabeerathumma, S and Sudharmai Devi, C.R 1996. Progress in Agronomy Research in India. Paper presented in the Vth Asian Cassava Workshop on Casava breeding, Agronomy and Farmer Participatory research in Asia held in Danzhou, Hainan, PR of China. Nov 3 - 8 Dec. 1996. Proceedings pp 280 - 306. (By invitation).
- 6 Potty, V.P (1998) *Agrobacterium rhizogens* mediated transformed cassava roots for mass multiplication of arbuscular mycorrhizal fungus. Presented at IV CBN meeting held at Salvador, Bahia, Brasil 3rd to 7th NOV. (By

- invitation).
- 7 Potty,VP (2001) Growth and establishment of AM Fungi – *Glomus microcarpum* var. *microcarpum* in genetically transformed roots of cassava (*Manihot esculenta* crantz). Presented at CBN –V Cassava biotechnology net work meeting held at St louis, USA. 4-9 Nov. .(By invitation).

b) National

- 1 Potty, V.P., Maini, S.B., Moorthy, S.N. and Balagopal, C (1980). Production of itaconic acid from Cassava starch. Proc. Semi. Post Harvest Tech. Cassava held in Trivandrum.
- 2 Potty, V.P. (1987). Response of Ground nut (*Arachis hypogea*) to dual inoculation of VAM and Rhizobium and their role in nodule formation presented at DAE Nat. Sym.on Plant Microbe Interaction held at Jaipur. Nov. 21 - 23. pp 100 - 105. (By invitation)
- 3 Potty, V.P (1990). Multiplication and inoculation of *Glomus microcarpum* in vegetatively propagated crops. Presented at Asian conference on Mycorrhizae held at University of Madras Jan. 29 - 31, pp 243 - 245. (By invitation)
- 4 Potty, V.P. (1993). Production strategies for mycorrhizal inoculum. Presented at National Seminar on Biofertilizers at University of Madras. Feb 12 – 14 (By invitation).
- 5 Potty, V.P. (1994) Bio mass production of industrial sweet potato (*Ipomoea batatas*) influenced by VAMF inoculation. Presented at National symposium on New Developments and related natural Products. RRL Trivandrum, March 17 & 18 p40 – 42 (By invitation)
- 6 Potty, V.P (1996) Arbuscular mycorrhizae and tropical tuber crops. Special talk given in the international symposium on Microbs and mankind at Jawaharlal Nehru University, New Delhi. (By invitation).
- 7 Potty, V.P (1998) special lecture given for Agricultural officers of Tamil Nadu, Kerala, and Andhra Pradesh on Mycorrhizal association in tuber crops (By invitation).
- 8 Potty, V.P (1999) special lecture given for Agricultural officers of Tamil Nadu, Kerala, and Andhra Pradesh on Mycorrhizal association in tuber crops (By invitation).
- 9 Potty, V.P (2000) Special lecture given for Agricultural officers of Tamil Nadu, Kerala, Karnataka, Goa, Punjab and Andhra Pradesh on Mycorrhizal association in tuber crops (By invitation).
- 10 Potty, V.P (2000) Special lectures offered to Teachers of the Calicut University on Mycorrhizal fungi and its position in the plant kingdom and AM fungi and its role in crop production in Tropical Tuber crops during 1 st March (By invitation).

14) Externaly Funded projects handled

- a) ICAR Ad Hoc Project:-Development of technologies for the multiplication of am fungi with special reference to Sweet Potato (*Ipomo batatas*) (PI -V.P.Potty) (Rs 6.00lakh)

b) LSRB(DRDO) Project:-Development of ecofriendly mycorrhizal technology for tropical tuber crops (PI -V.P.Potty).(Rs 15.00 Lakh)

a) 15) Technologies Developed -Industrial Front

- 1 Developed technology for the deodorization and preservation of coconut Toddy
- 2 Developed a technology for the production of Itaconic acid by fermentation using *Aspergillus itaconicus*
- 3 Standardized technique for removal of Tannin from plant tissues.
- 4 Standardized a procedure for the estimation of pyrogallol from plant tissues.
- 5 Developed a colorimetric technique for the estimation of indole derivatives from the food and food products.
- 6 Actively participated in the development of technology for the production of Industrial Alcohol from cassava.
- 7 Developed techniques for the production of enzymes-peroxidase, PPO, protease, Amylase and glycosidase from starch factory effluents and waste by fermentation.
- 8 Improvement of microbes.

b) Microbiological front

- 1 Developed methodology for the storage of Arbuscular mycorrhizal fungi.
- 2 Standardized technology for multiplication using conventional methods
- 3 Evolved a low cost technology for the mass inoculation of mycorrhizal fungi in the field.
- 4 Standardized biotechnological procedure for the mass multiplication of AM fungi using genetically transformed roots.
- 5 Standardized technology for the production of Poly hydroxy butyrate(PHB)Biodegradable plastic from the cassava starch industry waste -Thippi using bacteria -*Alcaligenes eutropus*.
- 6 Production technology was standardized for industrial polysaccharides from cassava starch factory waste thippi using *Arthrobacter viscosus*
- 7 Detected and evaluated the hydroxymate type of siderophore production by mycorrhizal cassava and sweet potato.

16 A) Examinerships (Ph.D and M.Sc)

- 1 Kerala University, Trivandrum(India)
- 2 Kerala Agricultural university, Trichur (India)
- 3 Annamalai University Chidambaram/ (India)
- 4 Bangalore University, Bangalore (India.)
- 5 Tamil Nadu Agricultural University, Coimbatore (India)
- 6 Bharathidasan university, coimbatore,(India).
- 7 Madras university, Chennai, (India).
- 8 MG University, Kottayam (India).

- B) Recognised guide in Biotechnology and Microbiology of Kerala University, for post graduate programmes leading to Msc , PhD  
 Ph.D degree awarded - Four,  
 working for Doctoral programmes in Microbiology/Biotechnology. - Four  
 MS from University Wahiningen, The Netherlands. -One  
 B.Sc (Biotechnology) degree. - Six  
 MSc. Students took their Biotechnoloy degree -49  
 working for MSc degree.—seven

**Title and author of MSc research programme (Few)**

- **Abhilash. K-** “Rhizosphere and phyllosphere microflora of cassava and their antagonistic properties”-2001.
- **A Rathika** –“Microbial production of biopolymers from cassava starch factory waste (Thippi)” -2002
- **RS Reji-** “Polysaccharide production by *Arthrobacter viscosus* from cassava starch factory solid waste” -2002
- **Padmini Mukundan** – Phosphate solubilising microflora of cassav soil-2002
- **G Anju** – “Siderophore producing bacteria from the rhizosphere of tuber crops” - 2003
- **Annie Lal CD**—“Evaluation of enzyme profile of bacterial isolates from cassava rhizosphere”- 2003
- **Alex lal CD** –“Evaluation of enzyme profile of fungal isolates from cassava tubers”- 2003
- **Anu James** – “A preliminary study on mycorrhizal association in cassava, Sweet Potato and Yams” -2003
- **Reena Mol** – “Microbia Production of biopolymers from Coir industrial waste” - 2003
- **Riyas Raja MB** –“Sideropore producing rhizobial and Bradyrhizobial isolates from the rhizosphere of legume plants”.-2003
- **Sony.K** –“Sideropore producing fungal isolates from the rhizosphere of legume plants”.-2003
- **Libini Mary Eapen** “A Preliminary study on the free living Nitrogen fixing organisms in the rhizosphere of Cassava, Sweet Potato and Colocasia”- 2003.
- **M.H. Ramya** - “a preliminary study on the free living phosphate solubilizing microflora in the rhizosphere of cassava, sweet potato and colocasia”-2003.
- **Niji,G.S,** “Isoenzyme pattern of *Piriiformospora indica* and arbuscular mycorrhizal fungi from sweet potato ” -2004.
- **Devipriya, K.I,** -“Protein profile of *Piriiformospora indica* and *Glomus microcarpum* isolated from sweet potato.-2004.
- **Tina Salim,** -“Polysaccharides by fungal isolates from the rhizosphere of tuber crops”-2004.
- **Anu Elizabeth Peter,-** “Antimicrobial activity of actinomycetes isolated from the rhizosphere of tuber crops- 2004.
- **Remya Rajan-**“ Hydrocarbon degrading soil organisms and their enzyme profile”- 2004.
- **Priya P.S** -“Rhizosphere microflora of tuber crops Viz. sweet potato, Yam and *Amorphophallus* and their relation in siderophore production”.2004.

- Leeka Rani, K.L.- “ Host microbe interaction and their influence in siderophore production ”-2004
- Fathima Zehara-“ Nitrogen fixing bacterial isolates from the phyllosphere of cassava ”.-2004
- Sithara Sahadevan-“ isoenzyme pattern of phosphatases of mycorrhizal and non mycorrhizal Sweet Potato and Chinese Potato ”-2004
- Jincy Joseph “ Siderophore producing bacterial isolates from Cassava and Sweet Potato 2004.

#### 17) Memberships in different committees

1. Member of the Task Force on innovative Agriculture, State Planning board, Trivandrum.
2. Assessment committee of scientists and to Technician at Regional Research Laboratory, Trivandrum.
3. Member of the expert committee on Agri. Business consortium of State Agricultural department.
4. Advisory Board Member for establishing Biofertilizer laboratory for State Agricultural Department, Govt of Kerala.

#### 18) Memberships in Professional Societies

- Association of Food Scientists and Technologists of India.
- Association of Microbiologists of India.
- Indian Society For Root Crops.
- Indian Society for Plantation crops.

#### 19) Organizational and Editorial Experience

- Co editor of the symposium proceeding on Vectors and vector born diseases held at Trivandrum in 1980
- Secretary of the symposium and Co editor of the symposium proceeding on National symposium on tuber crops held at Trivandrum in 1990
- Co Editor of the Proceedings of the symposium on International Symposium on Tropical tuber crops held in 1993.
- Chief Editor of The journal of Root Crops Since 1998
- Co editor of the Proceedings of the International Symposium on tropical tuber crops held in Jan, 2000.
- Secretary General of XII Swadeshi Science Congress held during 2002 at CTCRI, Trivandrum
- Member organizing Committee of XIII Swadeshi Science Congress held during 2003 at Kalpetta, Wayanadu, Kerala.
- Member organizing Committee of Aryabattiyam 2003 held during 2003 at Trivandrum.
- Member organizing Committee of Aryabattiyam 2004 to be held during 2004 at Trivandrum.
- General convenor for organizing Swadeshi Science Congress at Thekkady, 2004

- General convenor for organizing the International Eco Meet Prithvi 2005 held in February, 2005 at Trivandrum

## 20) Publications

### 1). Chapters in Book

- 1) VA mycorrhizal fungi in tuber crops Advances Horticulture Eds KL Chadda and GG Nayar, Malhotra Publishers, new Delhi (1994).
- 2) New Developments in Carbohydrates and related natural products eds MJ Mulky and Asok Pandey, Oxford & IBH Publishing Co Pvt ltd, New Delhi (1996).
- 3) Mycorrhizal Technology for tropical Tuber Crops. (2002) In Recent Trends in Biotechnology (Edited by V.S.Harikumar) Scientific Publishers (India) Jodhpur pp 61-72.
- 4) Edited a book on Food Security through sustainable Technologies Published by Swadeshi Science Movement, Trivandrum. 2003

### 2) Technical Bulletins

- VA Mycorrhizal Association in Tuber Crops (Published by CTCRI) (Single Author).
- Nutritional Improvements of cassava products using microbial techniques for animal feeding (Published by CTCRI) (One of the author).

## 21 ) List of publication (Important publications):-

- 1 Wilson, K.I and Potty, V.P. (1972). Yellow vein mosaic of *Blumea neilgherrensis*. *Agri.Res.J.Kerala*. 10 (1) 66.
- 2 Potty, V.P and Wilson, K.I. (1973). Carbohydrate and mineral metabolism in Bhendi due to virus infection. *Agri.Res.J.Kerala*. 11 (1) 65 - 68.
- 3 Potty, V.P. and Wilson, K.I. (1974). Effect of yellow vein mosaic virus infection phyllosphere microflora of Bhendi plants. *Agri.Res.J.Kerala* 12 (2) 168 - 171.
- 4 Potty, V.P. (1974). Effect of yellow vein mosaic virus infection on chemical constituents and phyllosphere microflora of Bhendi plants (*Abelmoschus esculentes*) M.Sc (AG) thesis submitted to Kerala University.
- 5 Joseph, K.V., Potty, V.P and Jayasankar, N.P. (1974). A colorimetric method for the estimation of pyrogallol. *J.Plant. Crops*. 2(1).1 -4.
- 6 Sahsranaman, K.N., Pillai, N.G., Jayasankar, N.P., Potty, V.P., Thomas Varkey, Kamalakshy Amma, P.G., and Radha, K. (1975). Agrostology- Mixed farming in coconut gardens. Paper presented at the 4th session of FAO Tech. Wkg. Pty. Cocon. Prod. Prot. and Process., Kingston, Jamaica.
- 7 Potty, V.P., Joseph, K.V and Jayasankar, N.P (1975) Elimination of tannins from coconut leaves *J.Plant. Crops* 3(2) 87-88
- 8 Mathew George, Potty, V.P. and Jayasankar, N.P. (1976). Association of *Enterobacter* with coconut root (Wilt) disease. *Cur. Sci.* 45 (18) - 678.
- 9 Potty, V.P and Jayasankar, N.P. (1976). Influence of crop mixing hybrid napier on root zone microflora of coconut palms. *International symposium on coconut*

*Res.Dev.*, Dec 28 ,Kasaragod ,Kerala,India.

- 10 Potty,V.P. Mathew George and Jayasankar,N.P (1976). Effect of crop mixing on the coconut rhizosphere . *Indian Coco. J.* 8(7) : 1 - 2.
- 11 Joseph K.V. Potty,V.P and Jayasankar,N.P. (1976). Increase in poly phenol oxidase and peroxidase with higher intensities of coconut root (wilt) disease . *J.Plant.Crops.* 4(1). 4 - 6.
- 12 Mathew George, Thomas Joseph., Potty,V.P. and Jayasankar,N.P. (1976). A bacterial blight disease of cardomom. *J.Plant.Crops* 4(1) 23 - 24.
- 13 Potty,V.P, Joseph,K.V. and Jayasankar,N.P. (1978). Rapid detection of indole compounds with Ehrlich's reagent. *Curr.Sci.* 47 (2) 66 - 67.
- 14 Potty,V.P. (1978). Rhizosphere microflora of coconut palm (*Cocos nucifera*. (Lin.) with special reference to root (wilt) disease. Ph.D Thesis submitted to University of Kerala.
- 15 Dwivedi,R.S.,Potty,V.P. , Sumathykutty Amma.,N., Govindan Kutty,M.P.,Solomon,J.J., and Jayasankar,N.P. (1978). Investigations on vascular browning in the roots of root (wilt) diseased coconut (*Cocos nucifera* Lin). *Curr.Sci.* 47(1) 31
- 16 Potty,V.P.,Joseph,K.V., Sethumadhavamenon,K and Jayasankar,N.P (1978) Processing and fermentation of Coconut toddy . *J.Food Sc.* 15(1) 32 - 34
- 17 Potty,V.P. (1978) Occurrence of vesicular arbuscular mycorrhiza in certain tuber crops. *J.Root Crops.* 4(1) 49 - 50.
- 18 Potty,V.P, Mathew George and Jayasankar,N.P. (1979) . Phenoloi metabolism and lignoclastic property of *Poria ravanale* - Cocon isolate. Paper presented at *Placrosym III* held at Coimbatore.
- 19 Balagopal,C. and Potty,V.P (1980) . Microbial rotting of cassava roots. *Proc. Semi. Post Harvest Tech.* assava held at Trivandrum.
- 20 Potty,V.P., Maini,S.B .,Moorthy,S.N.and Balagopal,C (1980). Production of itaconic acid from Cassava starch. *Proc. Semi. Post Harvest Tech. Cassava* held in Trivandrum.
- 21 Padmaja,G., Balagopal,C and Potty,V.P. (1980). Polyphenols and vascular streaking in cassava. *Cassava News letter* 10 ., 5 .
- 22 Padmaja,G.,Balagopal,C and Potty,V.P (1982). Cellulolytic, amylytic and pectinolytic enzyme activities of deteriorating cassava roots. *J.Root.Crops.* 8(1 and 2): 35 - 40
- 23 Padmaja,G.,Balagopal,C and Potty,V.P (1982). Cellulolytic, amylytic and pectinolytic enzyme activities of deteriorating cassava roots. *International Symposium on Food 'Ahara' 82* . May 23 - 26 ,Bangalore,India.
- 24 Padmaja,G., Balagopl,C and Potty (1983). Causes for vascular streaking i cassava roots during post harvest deterioration . *Proc.Semi.Post Harvest Tech. Cassava* held at Trivandrum.
- 25 Potty,V.P and Hrishi N (1983)Endotropic mycorrhizal synthesis in *Coleus parviflorus* and its introduction using lignite sluirry as inoculating medium, Feb23 -26 Lima peru
- 26 Balagopal,C.,Padmaja and Potty,V.P (1983). Cellular and extracellular enzymes associated with post harvest deterioration of cassava roots . 6th *Int .Sym. Tropical Root Crops.* Feb 23 - 26, Lima, Peru.
- 27 Nanda,S.K and Potty,V.P .(1986). Evaluation of packaging materials for



- storage of cassava starch. *J.Root Crops*. 12(2) 67 - 69.
- 28 Ray,R.C., Padmaja,G., Potty,V.P and Balagopal,C (1990). Microbia biotechnology for detoxification of cyanide and pesticide wastes. In *New Trends in Biotechnology* pp. 219 – 247.
- 29 Ray,R.C., Potty,V.P. and Balagopalan,C (1991). Sulfur oxidation by the cyanide degrading fungus *Rhizopus oryzae*. *Folia Microbiol.* 36(3) 256 - 268.
- 30 Potty,V.P. and Jayasankar,N.P (1980) . Microbial profiles of coconut rhizosphere. *Proc.Int.Sym.Res.Dev* (NM Nayar, Willies India Pvt Ltd,Delhi.
- 31 Potty,V.P. and Hrishi,N (1983). Endotropic mycorrhizal synthesis in *Coleus parviflorus* and its introduction using lignite slurry as inoculating medium. *6th Int.Sym.Root Crops* Feb. 23 -25 Lima, Peru.
- 32 Potty,V.P (1985) Use of cassava as alternate host for multiplication of VAM for mass culturing. *Plant and Soil.* 88 ; 35 - 37.
- 33 Subhashini,D.V.,Rana,B.S and Potty,V.P (1987) Genotype dependant variation in mycorrhizal colonisation and phosphorus nutrition of sorghum (*Sorghum bicolor*) presented at DAE *Nat. Sym. Plant Microbe interaction*. Nov. 21 - 23 pp 106 - 108
- 34 Potty,V.P. (1987). Response of Groud nut (*Arachis hypogea*) to dual inoculation of VAM and *Rhizobium* and their role in nodule formation presented at DAE *Nat. Sym.on Plant Microbe Interaction* held at Jaipur. Nov. 21 - 23. pp 100 - 105.
- 35 Subhashini,D.V and Potty,V.P ( 1988) Interaction between *Glomus constrictum* and *Sclerotium bataticola* in sorghum. In *New Trends in Biotechnology* pp . 287 - 292.
- 36 Subhashini,D.V. and Potty,V.P ( 1988). Synergistic effect of *Glomus mossae* and *Azospirillum brasilenses* on the growth of *Sorghum bicolor* in pots. *New Trends in Biotechnology* pp 281 - 286.
- 37 Potty, V.P (1990). Multiplication and inoculation of *Glomus microcarpum* in vegetatively propagated crops. Presented at *Asian conference on Mycorrhizae* held at UnIversity of Madras Jan. 29 - 31,pp243 - 245.
- 38 Potty,V.P (1990) Response of Cassva (*Manihot esculenta* ) to VAM inoculation in acid laterite soil. Presented at *Asian conference on Mycorrhizae* held at University of Madras. Jan. 28 – 31. pp: 246 - 249.
- 39 Subhashini,D.V,Rana,B.S and Potty,V.P (1990) Genotype dependant variation in mycorrhizal colonisation and response to phosphorus in *Sorghum bicolor*. Presented at *Asian Conference on Mycorrhizae* held at University of Madras. Jan. 28 - 31pp 255 -59.
- 40 Potty,V.P (1990). Use of lignite slurry as inoculating medium for VAM in Chinese Potato *Coleus parviflorus* . *Plant Soil.* 125 : 146 - 148.
- 41 Potty,V.P. (1995) Response of cassava (*Manihot esculenta crantz*) to VA mycorrhizal inoculation in *Plant and soil.* *J. Root.Crops* 16(2) : 132 – 139.
- 42 Potty,V.P and Indira,P ( 1990) Influence of VAM on the photosynthesis and photorespiration of sweet potato (*Ipomoea batatas*) . *Poce.Nat .Sym.on Mycorrhizae* Feb. 14 - 16, Hissar.
- 43 Potty,V.P (1990) Effect of mycorrhization on sweet potato by *Glomus microcarpum* with Phosphobacterium in ultisols amended with ro phosphate. Presented at *Iner.Nat. Sym. on sweet potato Technology for 21st century*.

June 2 - 6 Alabama, USA

- 44 Nair,P.G., Mohankumar,C.R.,Mohankumar,B.,Nayar,T.V. Kabeerathumma,S and Potty,V.P (1990). Recent progresscassava agronomy research in India. *Proceedings of the workshop* held in Indonesia, Oct 22 - 27
- 45 Nayar,T.V.R and Potty (1993) Biomass productivity and nutrient uptak green manure cowpea. Cassava sequential cropping system. Presented at *Inter Nat. Sym.on Tropical Tuber Crops and Development* Held during Nov 7 - 9 ,Trivandrum
- 46 Nayar, T.V.R., Mohankumar,B and Potty,V.P. (1993). Low cost fertility management practices for cassava. *Inter.Nat.Sym. Problems,Prospects and future strategies* held at Trivandrum pp 194 - 199.
- 47 Potty,V.P. (1993) Interaction of *Glomus microcarpum* and Phosphobacterium *Bacillus* Sp. in the root zone of Sweet Potato and its role on growth and development. *Inter.Nat.Sym. on Tropical Tuber Crops* .held at Trivandrum pp247 - 251.
- 48 Nayar,T.V.R., Kabeetrathumma,S.,Potty,V.P and Mohankumar,C.R. Recent progress in cassava agronomyresearch in India . Presented at the *IV Asian Cassava Workshop* held During Nov 2 - 6., Held at Trivandrum.
- 49 Potty,V.P. (1993). Production stratagies for mycorrhizal inoculum. resented at *National Seminar on Biofertilizers* at University of Madras. Feb 12 - 14.
- 50 Potty,V.P (1994) Biomass production of Industrial Sweet potato (*Ipomoea batatas* as influenced by vesicular Arrbuscula mycorrhizal inoculation. Presented at National Symposium on New Development and related natural products . RRL,Trivandrum, March 17 and 18 pp 40 – 42.
- 51 Padmaja, G. Balagopalan,C. Moorthy, SN. and Potty,V.P (1994) Quality evaluation and functional properties of two normal cassava food products “Yuca rava” and Yuca porridge”. Internal .Meet in cassava starch and flour cali, Colombia, jan 1994.
- 52 Ramanathan S., Potty,V.P, Sheela, M.N., Suja,G and Anantharaman,M (1996) Technology Assessment and refinement through Institute- Village linkage- A wholistic approach. National seminar on participatory technology Development. Nov 21 –22, Trivandrum
- 53 Mohankumar, C.R., V.P.Potty ., C. S Raindran, K Kabeerathumma and C.S Sudharmai Devi (1998) Progress in Agronomy Research in India In Cassava Breeding, Agronomy and Farmer participatory Research in Asia *Proceedings of the 5th CIAT Regional workshop* Ed RH Howeler page 280 – 306
- 54 Potty,V.P and V.S Harikumar (1995)Interaction of Vesicualr Arbuscular mycorrhizal fungi and Phosphobacterium in sweet potato rhizosphere. Proccedings the Third National conference on mycorrhizal fungi : Biofertilizer for future (Ed Alok Adholeya and Sujan singh pp 240 –244
- 55 Susan jhon,Kabeerathumma,S and Potty,VP (1996) Nutrient availability in relation to soil microbial biomass in a lng term manural trial ocassava cultivated in an acid ultizol (1996) IMOTUC, Trivandrum
- 56 Mohan kumar,C.R Potty,V.P.,Ravindran,C.S,Kabeerathumma,S and Sudharmai Devi,C.R 1996. Progress in Agronomy Research in India. Paper presented in the Vth Asian Cassava Workshop on Casava breeding, Agronomy and Farmer Participatory research in Asia held in Danzhou,

- Hainan, PR of China. Nov 3 – 8 Dec. 1996. Proceedings pp 280 – 306.
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