



NOMINEE DETAILS AND SUMMARY OF EXPERTISE: AUTHORS FOR DIAGNOSTIC PROTOCOLS

This template must be completed for all nominees and returned to the Secretariat together with the candidate's curriculum vitae.

PERSONAL DETAILS	
Name	Ms. Rosemarie W. Hammond
Country / organisation	United States Department of Agriculture, Agricultural Research Service (ARS)
Current position	Research Plant Pathologist
Contact details	Address: 10300 Baltimore Avenue, Beltsville, MD 20705, USA Telephone number: +1 301-504-5203 Fax: +1 301-504-5449 Email address: rose.hammond@usda.gov
SPECIFIC EXPERTISE REQUIRED (COMPLETE ALL ROWS)	
Diagnostic protocol for which the expert is being nominated (multiple options are possible):	<input type="checkbox"/> <i>Amaranthus palmeri</i> (2019-006) <input type="checkbox"/> <i>Solanum rostratum</i> (2019-007) <input checked="" type="checkbox"/> Pospiviroid species (except <i>Potato spindle tuber viroid</i> (DP 7)) (2018-031) <input type="checkbox"/> <i>Acidovorax avenae</i> subsp. <i>citrulli</i> (2018-032) <input type="checkbox"/> <i>Moniliophthora roreri</i> (2019-005) <input type="checkbox"/> <i>Meloidogyne mali</i> (2018-019) <input type="checkbox"/> <i>Cronartium comandrae</i> (2018-015)
Specific expertise in taxonomy and/or molecular diagnostics of the relevant pest	I have worked with pospiviroids at the United States Department of Agriculture since 1983 in the areas of discovery, cloning and sequence analysis, classification, taxonomy, development of novel diagnostic methods, and the study of pospiviroid/host interactions.
Practical expertise related to the pest (detection, identification, isolation etc.)	In relation to the detection, identification, isolation and characterization of several pospiviroid species in leaf and seed tissues, I have developed or used gel electrophoresis, Northern blot hybridization, cloning and sequence analysis, temperature gradient gel electrophoresis, nucleic acid hybridization, RT-PCR, isothermal RT-PCR and qRT-PCR.
Expertise with quarantine diagnostics, including using diagnostic protocols for regulated pests	I have developed protocols for the detection of exotic (to the United States) viroid species with funding from the regulatory agency in the United States (APHIS). These diagnostic protocols were supported by the APHIS Cooperative Agricultural Pest Survey (CAPS) Program for tomato apical stunt viroid, pear blister canker viroid, and coconut cadang cadang viroid and are written in the reports submitted to APHIS. They are not publications in peer-reviewed journals. The reports can be provided.
Expertise with drafting diagnostic protocols (e.g. regional diagnostic protocols)	I have limited expertise with drafting diagnostic protocols for regulatory agencies. Published diagnostic methods for detection and differentiation of prunus necrotic ringspot viroid (ref # 44 and 47 in CV), and tomato chlorotic dwarf viroid (ref #108 in CV).
Expertise with development of novel diagnostic methods	I have expertise in the development of novel diagnostic protocols using viroid-specific primers and isothermal amplification/immuno-strip detection of a pospiviroid in leaf and seed tissues (in collaboration with Agdia, Inc). The protocol is the basis for a kit marketed by the company.



Elements demonstrating a strong working knowledge of English		English is my first language.			
PROFESSIONAL BACKGROUND - SUMMARY OF WORK EXPERIENCE					
(Add more rows as necessary. Do not include full details here, details can be included in the CV)					
	Year started	Year finished	Job title	Organisation	Key duties (list only the duties most relevant to the nomination)
1	1988	present	Research Plant Pathologist	USDA ARS MPPL	1. Study of pospiviroid/host interactions 2. Development of novel viroid detection methods 3. Development of molecular methods to control viroid diseases
2	1983	1988	Postdoctoral Research Fellow	USDA ARS MPPL	1. Mutagenesis of cloned viroid molecules 2. Isolation and characterization of novel viroids 3. Study of viroid/host interactions
3	2016	2016	Acting National Program Leader	Office of National Programs, USDA ARS	1. Management and coordination of multiple plant health projects under the Plant Health umbrella of USDA ARS 2. Participation of several interagency and multilateral, multinational programs that deal with plant and animal health (e.g. PROCINORTE)
RELEVANT EDUCATION AND TRAINING					
Education/ Academic qualifications/ Professional training (list only those relevant to the nomination)		Education: B. S. (Botany) Miami University, Oxford, OH (1975) M.S. (Botany) University of Tennessee, Knoxville, TN (1977) Ph.D. (Botany) University of Tennessee, Knoxville, TN (1981)			
Other language skills					
PUBLICATIONS					
List publications and keynote speaking engagements (list only those relevant to the nomination and do not include copies of publications)		Hammond, R. W. and Owens, R. A. Mutational analysis of potato spindle tuber viroid reveals complex relationships between structure and infectivity. Proc. Natl. Acad. Sci. USA 84:3967-3971. 1987. Hammond, R., Smith, D. R., and Diener, T. O. Nucleotide sequence and proposed secondary structure of Columnea latent viroid: A natural mosaic of viroid sequences. Nucl. Acids Res. 17:10083 10094. 1989. Kovalskaya, N., Owens, R., Baker, C. J., Deahl, K., and Hammond, R. W. Application of a modified EDTA-mediated exudation technique and guttation fluid analysis for Potato spindle tuber viroid RNA detection in tomato plants (Solanum lycopersicum). J. Virol. Meth. 198: 75-81. 2014. Hammond, R. W., and Zhang, S. Development of a rapid diagnostic assay for the detection of tomato chlorotic dwarf viroid based on isothermal reverse-			



	<p>transcription-recombinase polymerase amplification. J. Virol. Meth. 236: 62-67. 2016.</p> <p>Xu, L., Wang, J., Zhu, D., Wei, H., Chen, X., Hammond, R. W., and Liu, Q. First report of Hop stunt viroid from sweet cherry with dapple apple fruit symptoms in China. Plant Dis. 101: 394. 2017.</p> <p>Avina-Padilla, K., Rivera-Bustamente, R., Kovalskaya, N. Y., and Hammond, R. W. Pospiviroid infection of tomato regulates the expression of genes involved in flower and fruit development. Viruses 10, 516. Doi:10.3390/v10100516. 2018.</p> <hr/> <p>Participated as an expert at the Working Group for Ilarviruses (EU COST Action-823), sponsored by the European Commission, Rome Italy. Presented one of two invited talks and participated in comparative work executed under standardized diagnostic conditions with scientists from EU participating countries, 1998.</p> <p>Invited technical expert and team member for an on-site review of the US AID-funded Middle Eastern Regional Cooperation Program (MERC) project "Development of a Regional Viral Indexing and Certification Program for Plant Propagation Materials in the Middle East" in Egypt and Israel. Role: Responsible for evaluation of technical advancement and cooperation and for writing portions of the detailed report presented to the US AID Bureau of Global Programs, Field Support, and Research, 2001.</p> <p>Consulted by the following research institutes for experience in isolation, characterization, cDNA cloning and sequence analysis of virus and viroid genomes, and virus and viroid detection: International Potato Institute, Lima, Peru, (1988-90); Centro de Investigacion en Biologia Celular y Molecular, University of Costa Rica, San Jose, Costa Rica, (1987-present); Botany Department, National University of Singapore, Singapore, 1990; Division of Mycology and Plant Pathology, Indian Agricultural Research Institute, New Delhi, India; Pennsylvania Department of Agriculture; Scottish Agricultural Science Agency; California Department of Food and Agriculture (2003-present). Performed confirmatory diagnostics for petunia samples suspected of viroid infection for the Wisconsin Department of Agriculture, 2015 and for switchgrass infected with Switchgrass mosaic virus for the Purdue University Plant and Pest Diagnostic Laboratory, 2016.</p>
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