



**FIFTH JOINT MEETING
OF THE DPG WORKING GROUP
„VIRUSKRANKHEITEN DER PFLANZEN“
AND THE “NEDERLANDSE KRING VOOR
PLANTEVIROLOGIE”,**

**April 8 and 9, 2009
HAMBURG**



This symposium has been sponsored by



Programme

5th joint meeting of the DPG working group „Viruskrankheiten der Pflanzen“ and the “Nederlandse Kring voor Plantevirologie”, 8th to 9th April, Hamburg

Wednesday 8. April 2009	
8:00 – 9:00	Registration, Poster up
9:00 – 9:20	Introductory remarks, Stephan Winter & Günter Adam
9:20 – 12:00	Virus and viroid characterization Moderation: R. van der Vlugt
9:20 – 09:40	Biosafety in Europe <u>B. J.M. Verduin</u> Wageningen University and Research Centre, Binnenhaven 11, 6709 PD Wageningen, The Netherlands
9:40 – 10:00	Nucleotide sequence of an aphid-transmissible potexvirus from parsley and construction of an infectious full-length cDNA clone <u>W. Menzel</u> ¹ , E. Maiss ¹ , K. Richert-Poeggeler ² and H.J. Vetten ² ¹ Leibniz University of Hannover, Institute of Plant Diseases and Plant, Hannover; ² Julius Kuehn Institute, Institute of Epidemiology and Pathogen Diagnostics, Braunschweig
10:00 – 10:20	Cloning and phylogenetic analyses of putative plant cryptic viruses <u>T. Lesker</u> ¹ , T. Myrach ¹ , W. Menzel ¹ , H.-J. Vetten ² , E. Maiss ¹ ¹ Leibniz Universität Hannover, Inst. Pflanzenkrankheiten und Pflanzenschutz, Herrenhäuser Str. 2, 30419 Hannover, Germany. ² Julius-Kühn Institut, Bundesforschungsinstitut für Kulturpflanzenforschung - Institut für Epidemiologie und Pathogendiagnostik, Messeweg 11/12, 38104 Braunschweig, Germany
10:20 – 10:40	Detection of defective forms of Barley dwarf virus <u>J. Schubert</u> ¹ , A. Habekuss ² , Y. Quian ³ ¹ JKI, Institute of Biosafety of Genetically Modified Transgenic Plants and ² Institute of Resistance Research and Stress Tolerance, ³ Sheijiang University China, Institute of Biotechnology
10:40 – 11:00	Coffee break Moderation: S. Winter
11:00 – 11:20	A distinct tospovirus species infecting <i>Alstroemeria</i> sp. in Colombia A. Hassani-Mehraban ¹ , <u>M. Botermans</u> ² , K. Verhoeven ² , E. Meekes ³ , J. Saaijer ¹ , R. Goldbach ¹ and R. Kormelink ¹ ¹ Laboratory of Virology, Wageningen University, 6709 PD, Wageningen, The Netherlands ² Plant Protection Service, P.O. Box 9102, 6700 HC Wageningen, The Netherlands ³ Naktuinbouw, P.O. Box 40, 2370 AA Roelofarendsveen, The Netherlands

11:20 – 11:40	<p>Pepper chat fruit viroid: biological and molecular characterization of a new viroid species from <i>Capsicum annuum</i></p> <p><u>J.Th.J. Verhoeven</u>¹, C.C.C. Jansen¹, J.W. Roenhorst¹, M. de la Peña² and R. Flores²</p> <p>¹ Plant Protection Service, Wageningen, The Netherlands ²Instituto de Biología Molecular Celular de Plantas (UPV-CSIC), Universidad Politécnica de Valencia, Valencia, Spain</p>
11:40 – 12:00	<p>Cassava brown streak virus: A new Ipomovirus with unusual genome features</p> <p><u>S. Winter</u>, M. Koebler, B. Stein, A. Pietruzka and A. Butgereitt DSMZ-Deutsche Sammlung von Mikroorganismen und Zellkulturen, Abteilung Pflanzenviren, Inhoffenstraße 7b, 38124 Braunschweig, Germany.</p>
12:00 – 13:10	Lunch
13:10 – 14:30	Occurrence of viruses and viroids Moderation: H.- J. Vetten
13:10 – 13:30	<p>Transmission of Tulip breaking virus by aphids in tulip: invisible risks require adapted risk monitoring and crop protection strategies.</p> <p><u>M. de Kock</u>¹, I. Stijger¹, M. Lemmers¹, K. Pham¹, M. van Dam¹</p> <p>¹Wageningen UR – Applied Plant Research, The Netherlands</p>
13:30 – 13:50	<p>Epidemiological evidence that vegetatively-propagated solanaceous plant species act as sources of <i>Potato spindle tuber viroid</i>-inoculum for tomato</p> <p>J.Th.J. Verhoeven, M. Botermans, C.C.C. Jansen & <u>J.W. Roenhorst</u>*</p> <p>*Plant Protection Service, PO Box 9102, 6700 HC Wageningen, the Netherlands</p>
13:50 – 14:10	<p>Pepino mosaic virus: epidemiology, economic impact and pest risk analysis (PEPEIRA)</p> <p><u>R. A.A. van der Vlugt</u>¹</p> <p>¹Plant Research International, P.O. Box 16, NL-6700 AA Wageningen, The Netherlands</p>
14:10 – 14:30	<p>Occurrence of <i>Iris yellow spot virus</i> in the Dutch onion crops and confirmation of transmission by <i>Thrips tabaci</i>.</p> <p>¹K. Hoedjes, ²K.Verhoeven, ¹R. Goldbach and ¹<u>D. Peters</u></p> <p>¹Laboratory of Virology, Wageningen University, Binnenhaven 11, 6709 PD Wageningen ²Plant Protection Service, Postbus 9102, 6700 HC Wageningen, The Netherlands</p>
14:30 – 16:30	Poster session

16:30 – 17:10	Virus technologies Moderation: G. Adam
16:30 – 16:50	Tobacco mosaic virus surface mutants for nanotechnology applications F.Geiger ¹ , A.Müller ¹ , H. Jeske ¹ , C. Wege ¹ , J. Spatz ² ¹ Universität Stuttgart, Institute of Biology, Department of Molecular Biology and Plant Virology, Pfaffenwaldring 57, 70569 Stuttgart, Germany ² Max-Planck-Institute for Metals Research, Department of New Materials and Biosystems, Heisenbergstraße 3, 70569 Stuttgart, Germany
16:50 – 17:10	Engineered Tobacco mosaic virus mutants produced in planta exhibit distinct physical characteristics and result in different types of metallization products A. Kadri ¹ , E. Maiß ² , N. Amsharov ³ , S. Balci ³ , A.M. Bittner ³ , K. Kern ³ , H. Jeske ¹ , C.Wege ¹ ¹ Universität Stuttgart, Institute of Biology, Department of Plant Molecular Biology and Plant Virology, Pfaffenwaldring 57, 70550 Stuttgart, Germany ² Leibniz Universität Hannover, Institut für Pflanzenkrankheiten und Pflanzenschutz, Herrenhäuser Straße 2, 30419 Hannover, Germany ³ Max-Planck-Institut für Festkörperforschung, Heisenbergstraße 1, 70569 Stuttgart, Germany
17:10 – 18:10	Resistance Moderation: T. Kühne
17:10 – 17:30	DI DNA mediated resistance against Beet curly top virus (BCTV) in Beta vulgaris <u>J. Horn</u> ¹ , B. Schäfer ¹ , P. Wyant ¹ , B. Krenz ¹ , H. Jeske ¹ ¹ Universität Stuttgart, Biologisches Institut, Abteilung Molekularbiologie und Virologie der Pflanzen, Pfaffenwaldring 57, 70550 Stuttgart, Deutschland
17:30 – 17:50	RNAi-mediated resistance to Potato spindle tuber viroid in transgenic tomato expressing the viroid hairpin DNA construct <u>G. Krczal</u> ¹ , N. Schwind ¹ , M. Zwiebel ¹ , A. Itaya ² , B. Ding ³ , M.-B. Wang ⁴ , M. Wassenegger ¹ ¹ RLP Agrosience GmbH, AIPlanta-Institute for Plant Research, Breitenweg 71, 67435 Neustadt Germany ² Department of Plant Cellular and Molecular Biology and Plant Biotechnology Center, Ohio State University, Columbus, Ohio, USA ³ Department of Plant Cellular and Molecular Biology and Plant Biotechnology Center, Ohio State University, Columbus, Ohio, USA ⁴ CSIRO Division of Plant Industry, PO Box 1600, Canberra, ACT 2601, Australia

17:50 – 18:10	<p>RNAi-mediated transgenic tospovirus resistance broken by intraspecies NSS complementation</p> <p><u>A. Hassani-Mehraban</u>¹, A. B. Brenkman², N. J. F. van den Broek², R. Goldbach¹ and R. Kormelink¹</p> <p>¹Laboratory of Virology, Wageningen University, Binnenhaven 11, 6709 PD Wageningen, The Netherlands; ²Department of Metabolic and Endocrine Diseases and Netherlands Metabolomics Centre, University Medical Centre, 3508 AB, Utrecht, The Netherlands</p>
18:10 – 18:40	Societies business hour
19:30 -	Dinner

Thursday 9. April 2009	
8:30 – 12: 15	<p>Gene function</p> <p>Moderation: H. Jeske</p>
8:30 – 8:50	<p>Protein-protein interaction screen of a sugar beet cDNA library with the beet necrotic yellow vein virus pathogenicity factor P25 identifies proteins possibly involved in virus pathogenicity and plant resistance response</p> <p><u>H. Thiel</u>¹ and M. Varrelmann¹</p> <p>¹ Institute of Sugar Beet Research, Department of Phytopathology, Holtenser Landstr. 77, D-37079 Göttingen, Germany</p>
8:50 – 9:10	<p>The potato virus X replicase linker region between methyltransferase and helicase domain is involved in RNA recombination</p> <p>H.-K. Draghici¹ and <u>M. Varrelmann</u>^{1,2}</p> <p>¹ Department of Crop Sciences, Section Plant Virology, University of Göttingen, Grisebachstrasse 6, D-37077 Göttingen, Germany</p> <p>² Institute of Sugar Beet Research, Department of Phytopathology, Holtenser Landstr. 77, D-37079 Göttingen, Germany</p>
9:10 – 9:30	<p>A single C/U nucleotide substitution changing alanine to valine in the <i>Beet necrotic yellow vein virus</i> P25 protein promotes increased virus accumulation in roots of mechanically inoculated, partially resistant sugar beet seedlings</p> <p><u>R. Koenig</u>¹, S. Loss², J. Specht², M. Varrelmann³, P. Lüddecke² and G. Deml²</p> <p>¹ c/o JKI Braunschweig, ² JKI Braunschweig, ³ Institut für Zuckerrübenforschung, Göttingen</p>
9:30 – 9:50	<p>Similarities in the capsnatching mechanism of Tomato spotted wilt virus and Influenzavirus during genome transcription</p> <p><u>C. Geerts-Dimitriadou</u>¹, R. Goldbach¹, and R. Kormelink¹</p> <p>¹Laboratory of Virology, Wageningen University, Binnenhaven 11, 6709 PD Wageningen, Netherlands</p>

9:50 – 10:10	Coffee break
	Moderation: R. Kormelink
10:10 – 10:30	<p>A plastidal heat shock cognate 70 kDa protein interacts with <i>Abutilon mosaic virus</i> movement protein and affects viral DNA accumulation</p> <p>B. Krenz¹, V. Windeisen^{1,†}, C. Wege¹, H. Jeske¹, <u>Tatjana Kleinow</u>¹</p> <p>¹Institute of Biology, Department of Molecular Biology and Plant Virology, Universität Stuttgart, Pfaffenwaldring 57, 70550 Stuttgart, Germany; [†] Present address: Biochemistry Center (BZH), Heidelberg University, Im Neuenheimer Feld 328, 69120 Heidelberg, Germany</p>
10:30 – 10:50	<p>Plant geminivirus Rep protein interferes with the control of fission yeast cell cycle</p> <p><u>K. Kittelmann</u>¹, P. Rau¹, B. Gronenborn², H. Jeske¹</p> <p>¹Universität Stuttgart, Institute of Biology, Department of Molecular Biology and Plant Virology, Pfaffenwaldring 57, 70550 Stuttgart, Germany ²Institut des Sciences du Végétal, CNRS, 91198 Gif-sur-Yvette, France</p>
10:50 – 11:10	<p>Geminiviral minichromosome dynamics</p> <p>T. Paprotka¹, H. Jeske¹</p> <p>¹Universität Stuttgart, Molekularbiologie und Virologie der Pflanzen, Pfaffenwaldring 57, 70550 Stuttgart</p>
11:10 – 11:30	<p>Molecular characterization of a putative PSTVd binding protein, the CDC5 homolog of tomato (SICDC5)</p> <p>C. Timmermann¹, R. Werner², N. Bolle³, H.-P. Mühlbach¹</p> <p>¹Universität Hamburg, Biozentrum Klein Flottbek, Ohnhorststrasse 18, 22609 Hamburg ²Universität Lübeck, Faculty of Medicine, Ratzeburger Allee 160, 23538 Lübeck ³University of Kiel, Institute of Botany and Botanical Garden, Ohlshausenstr. 40, 24098 Kiel</p>
11:30 – 11:50	<p>Tenuiviral RNAi suppressor terminates a longstanding enigma: Are human viruses targets of RNAi?</p> <p><u>E. Schnettler</u>¹, W. deVries², R. Kormelink¹, B. Berkhout² and R. Goldbach¹</p> <p>¹Laboratory of Virology, Wageningen University, Wageningen, The Netherlands ²Laboratory of Experimental Virology, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands</p>
11:50 – 12:15	Wrap up of the meeting

1 Revision of taxonomy of the virus causing Augusta disease in tulips in The Netherlands.

K. Pham¹, M. Lemmers¹, J. van Doorn¹ and T. Derks¹.

¹Wageningen UR – Applied Plant Research, The Netherlands

2 Analysis of the hosta virus X (*Potexvirus*, *Flexiviridae*) distribution in infected plants using transmission electron microscopy

K. Richert-Poeggeler¹, C. Maass¹, S. Schuhmann¹, J. Engelmann¹, D.-E. Lesemann¹, K. Kobayashi², B. Lockhart³

¹Julius Kühn-Institut, Inst. for Epidemiology and Pathogen Diagnostics, D-38104 Braunschweig, Germany

²Iwate Biotechnology Research Center, Dep. of Life Science, Group of Plant Pathology, Kitakami 024-0003, Iwate, Japan

³Univ. of Minnesota, Dep. of Plant Pathology, St. Paul 55108-6030, MN, USA

3 Outbreak of *Tomato yellow leaf curl virus* in the Netherlands

M. Botermans¹, J.Th.J. Verhoeven¹, C.C.C. Jansen¹, C.C.M.M. Stijger², K.T.K. Pham³ & J.W. Roenhorst¹

¹Plant Protection Service, Wageningen, The Netherlands, ²Wageningen UR Greenhouse Horticulture, Bleiswijk, The Netherlands, ³Applied Plant Research, Lisse, The Netherlands

4 Localisation and quantification of all four RNAs of European mountain ash ringspot-associated virus (EMARAV) in mountain ash (*Sorbus aucuparia* L.)

N. Schlattermund¹, N. Mielke¹, H.-P. Mühlbach¹

¹University of Hamburg, Biocentre Klein Flottbek and Botanical Garden, Ohnhorststr. 18, 22609 Hamburg, Germany

5 Complete nucleotide sequence of Celery latent virus

I. Eikenberg¹, W. Menzel¹, H.-J. Vetten², and E. Maiss¹

¹Leibniz Universität Hannover, Inst. Pflanzenkrankheiten und Pflanzenschutz, Herrenhäuser

Str. 2, 30419 Hannover, Germany. ²Julius-Kühn Institut, Bundesforschungsinstitut für Kulturpflanzen - Institut für Epidemiologie und Pathogendiagnostik, Messeweg 11/12, 38104 Braunschweig, Germany

6 First steps for detection of Barley yellow dwarf in aphids

N. Drechsler^{1*}, Th. Thieme¹, A. Habekuß², J. Schubert³

¹BTL Sagerheide and ²JKI, Institute of Resistance Research and Stress Tolerance and ³Institute of Biosafety of Genetically Modified Transgenic Plants

7 Can dried material from a herbarium serve as source for plant virus RT-PCR and ELISA?

S. Preuschhof, C. Heinze, P. Willingmann and G. Adam

Biocenter Klein Flottbek; University of Hamburg

8 *Cherry leaf roll virus* (CLRV) - genome organisation of the RNA1

S. von Barga¹, J. Langer¹, A. Rumbou¹, J. Gentkow², und C. Büttner¹

¹Institute of Horticultural Sciences, Humboldt-Universität zu Berlin, Lentzeallee 55/57, D-14195 Berlin, Germany;

²present address: Leibniz-Institute of Plant Biochemistry, Weinberg 3, D-06120 Halle, Germany

9 Occurrence of EMARAV and CLRV in tree species native to Finland

N. Arndt¹, S. von Barga¹, E. Grubits¹, R. Jalkanen², C. Büttner¹

¹Institute of Horticultural Sciences, Humboldt-Universität zu Berlin, Lentzeallee 55/57, D-14195 Berlin, Germany;

²Metla, Finnish Forest Research Institute, Rovaniemi, Finland

10 Developing of diagnostic multiplex RT-PCR assays for the detection of soil-borne mosaic viruses and their natural vector *Polymyxa graminis*

V. W. Fomitcheva¹, U. Kastirr¹, A. Habekuss² and T. Kuehne¹

Federal Research Centre for Cultivated Plants – Julius Kühn-Institut, ¹Institute for Epidemiology and Pathogen Diagnostic, ²Institute for Resistance Research and Stress Tolerance

11 Sequencing of apple stem pitting isolates and generation of an infectious full-length cDNA clone

A. Arntjen¹ and W. Jelkmann¹

¹Julius Kühn– Institut, Institut für Pflanzenschutz in Obst- und Weinbau, Dossenheim

12 A generic (RT)-PCR test for caulimoviruses

A.M. Dullemans & R.A.A. van der Vlugt

WUR-Plant Research International BV, P.O. Box 16, 6700 AA Wageningen, The Netherlands

13 Barley Yellow Dwarf Virus detection and assessment of virus spread in susceptible and resistant barley plants

V. Spamer¹, C. Obermeier¹, W. Friedt¹

¹Justus-Liebig-University, Department of Plant Breeding, IFZ Research Center for Biosystems, Land Use and Nutrition, Heinrich-Buff-Ring 26-32, 35392 Giessen, Germany

14 Applying of multiplex RT-PCR analysis for the detection of soil-borne viruses in different cereals in the early stages of disease development

U. Kastirr¹, V. Fomitcheva¹, V. Papke¹, B. Schmiedchen²

¹JKI, IEP, Erwin-Baur-Straße 27,06484 Quedlinburg, Germany. ²KWS Lochow GmbH, Zuchtstation Petkus, Merzdorfer Straße 38,15837 Baruth/Mark, Germany

15 Developing of diagnostic multiplex RT-PCR assays for the detection of soil-borne mosaic viruses and their natural vector *Polymyxa graminis*

V. W. Fomitcheva¹, U. Kastirr¹, A. Habekuss², T. Kühne¹

¹JKI/IEP, Erwin-Baur-Straße 27,06484 Quedlinburg, Germany. ²JKI/IRS, Erwin-Baur-Straße 27,06484 Quedlinburg, Germany

16 Classification and specific detection of European isolates of *Wheat streak mosaic virus*

S. Gadiou¹, O. Kúdela², J. Ripl¹, J. K. Kundu¹, M. Glasa², W. Huth³, R. Götz³, F. Rabenstein³

¹Department of Virology, Crop Research Institute, Prague, 161 06 Czech Republic, ²Department of Plant Virology, Institute of Virology, Slovak Academy of Sciences, Bratislava, Slovakia, ³JKI, Institute for Epidemiology and Pathogen Diagnostics, Quedlinburg, Germany.

17 Diagnosis and characterization of Geminiviruses infecting Bolivian plants based on RCA amplification

P.S. Wyant, B. Schäfer, J. Horn, B. Krenz, H. Jeske

Universität Stuttgart, Institute of Biology, Department of Molecular Biology and Plant Virology, Pfaffenwaldring 57, 70569 Stuttgart, Germany

18 Aphid vectors and transmission of Potato virus Y strains

M. Verbeek¹, P.G.M. Piron¹, A. M. Dullemans¹, G.W. van den Bovenkamp², G. Miedema² and R. A.A. van der Vlugt¹

¹Plant Research International BV, P.O. Box 16, 6700 AA Wageningen, The Netherlands

²Nederlandse Algemene Keuringsdienst (NAK), P.O. Box 1115, 8300 BC Emmeloord, The Netherlands

19 Double-stranded RNA patterns indicate virus infection of dieback affected Dalbergia sissoo trees in Bangladesh

S.Vogel, H. Tantau¹, N. Mielke¹, M.I. Hoque², R.H. Sarker², M.S. Khan³, H.-P. Mühlbach¹

¹Biocentre Klein Flottbek, University of Hamburg, Ohnhorststr. 18, D-22609 Hamburg, Germany

²Department of Botany, University of Dakha, Dhaka-1000, Bangladesh

³BCSIR, Dhaka-1205, Bangladesh

20 Is the eriophyid mite *Phytoptus pyri* the vector of European mountain ash ringspot-associated virus (EMARAV)?

N. Mielke¹, J. Thoma¹, H.-P. Mühlbach¹

¹Universität Hamburg, Biozentrum Kl. Flottbek, Ohnhorststr. 18, 22609 Hamburg

21 Diversity of Caulimoviruses Associated with Dahlia Mosaic in Dahlia

R. Miglino², K. L. Druffel¹, A. R. van Schadewijk², H. R. Pappu¹

¹Department of Plant Pathology, PO Box 646430, Washington State University, Pullman, WA 99164-6430, USA; ²Dutch Flower Bulb Inspection Service, P.O. Box 300, 2160 AH Lisse, The Netherlands.

22 Interceptions of pospiviroids in solanaceous crops in the Netherlands

A.W. Werkman, J.Th.J. Verhoeven, and J.W. Roenhorst

Plant Protection Service, P.O. Box 9102, 6700 HC Wageningen, The Netherlands

23 Some of the variability of Beet necrotic yellow vein virus P25 pathogenicity factor previously allocated to geographically distinct isolates can already be retrieved in single representative A- and B-type soils

K. Bornemann¹ and M. Varrelmann¹

¹ Institute of Sugar Beet Research, Department of Phytopathology, Holtenser Landstr. 77, D-37079 Göttingen, Germany

24 Towards nanoscaled Tobacco mosaic virus-based carrier-rods exposing biological functionalities

S. Mangold¹, D. Brodbeck¹, A. Müller¹, F. Geiger¹, A. Kadri¹, R. Kontermann², H. Jeske¹, C. Wege¹

¹Universität Stuttgart, Institute of Biology, Department of Molecular Biology and Plant Virology, Pfaffenwaldring 57, 70569 Stuttgart, Germany. ²Universität Stuttgart, Institute of Cell Biology and Immunology, Allmandring 31, 70569 Stuttgart, Germany

25 Hairpin structure within the *Tomato yellow ring tospovirus* S RNA segment: a potential target for RNA silencing

A. Hassani-Mehraban, D. Lohuis, H. Hemmes, R. Goldbach, and R. Kormelink

Laboratory of Virology, Wageningen University, Binnenhaven 11, 6709 PD Wageningen, the Netherlands

26 Antiviral RNAi counter defence by ambisense RNA plant viruses

E. Schnettler¹, H. Hemmes¹, R. Huisman¹, R.Kormelink¹ and R. Goldbach¹

¹Laboratory of Virology, Wageningen University, Wageningen, The Netherlands

27 Changes in Barley Proteome after Infection with BYDV

K. Steckbauer¹, W. Friedt², A. van Bel¹

¹Institute of General Botany / Plant Cell Biology Research Group, Senckenbergstr. 17, 35390 Giessen, Germany

²Institute of Agronomy and Plant Breeding, Heinrich-Buff-Ring 26-32, 35392 Giessen, Germany

28 Generation of full infectious virus clones of Sri Lankan cassava mosaic virus and Indian cassava mosaic virus for resistance studies in Cassava

T. Makesh Kumar² and S. Winter¹

¹DSMZ-Deutsche Sammlung von Mikroorganismen und Zellkulturen, Abteilung Pflanzenviren, Inhoffenstraße 7b, 38124 Braunschweig, Germany. ²Central Tuber Crops Institute, Thiruvananthapuram, India

29 Optimization of a mRFP-based bimolecular fluorescence complementation system for investigation of Plum pox virus protein interactions in *Nicotiana benthamiana*

E. Scholz and E. Maiss,

Leibniz Universität Hannover, Inst. Pflanzenkrankheiten und Pflanzenschutz, Herrenhäuser Str. 2, 30419 Hannover, Germany,

30 Does the TSWV S RNA-encoded hairpin structure play a role in translation?

C. Geerts-Dimitriadou¹, R. Goldbach¹, and R. Kormelink¹

¹Laboratory of Virology, Wageningen University, Binnenhaven 11, 6709 PD Wageningen, Netherlands

31 Abutilon mosaic virus as a stable and attenuated vector for virus-induced gene silencing and limited phloem-specific protein expression

B. Krenz, C. Wege, and H. Jeske

University of Stuttgart, Department of Molecular Biology and Plant Virology, Pfaffenwaldring 57, D-70550 Stuttgart, Germany

32 Phenotypic aberrations caused by Cassava geminiviral RNA silencing suppressors in transgenic *N. benthamiana*.

S. Naseem, and S. Winter

DSMZ-Deutsche Sammlung von Mikroorganismen und Zellkulturen, Abteilung Pflanzenviren, Inhoffenstraße 7b, 38124 Braunschweig, Germany.

33 Characterisation of the eukaryotic translation initiation factor eIF4E from Cassava genotypes with resistance and susceptibility to Cassava brown streak virus

M. Kollenberg and S. Winter

DSMZ-Deutsche Sammlung von Mikroorganismen und Zellkulturen, Abteilung Pflanzenviren, Inhoffenstraße 7b, 38124 Braunschweig, Germany.

34 Co-expression of viral proteins P2 and P3 of European mountain ash ringspot-associated virus (EMARAV) in plant protoplasts

L. Novikova, B. Ikogho, I. Ludenberg, N. Mielke, H.-P. Muehlbach

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