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Elektronenmikroskopie von Pflanzenviren

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Bibliography 1939–1965

Zusammengestellt
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Vorwort

Arbeiten über elektronenmikroskopische Untersuchungen von Pflanzenviren sind in vielen verschiedenen Zeitschriften und Büchern verstreut, und oft ist den Titeln der Publikationen nicht zu entnehmen, daß sie solche Untersuchungsergebnisse enthalten. Das ist vermutlich auch ein Grund dafür, daß vorhandene große Bibliographien (z. B. Bibliographie der Pflanzenschutzliteratur von J. Bärner, Biologische Bundesanstalt für Land- und Forstwirtschaft, Berlin-Dahlem; Bibliography of Electron Microscopy, New York Society of Electron Microscopists) viele Lücken aufweisen und deshalb kaum geeignet sind, einen umfassenden Überblick über dieses Spezialgebiet zu vermitteln und als ständiges Hilfsmittel zu dienen. Darüber hinaus ist der diesen Bibliographien zugrunde liegende Schlüssel zu grob, als daß er schnell zu präzisen Informationen führt.

Um diesen Schwierigkeiten zu begegnen, wird mit diesem Heft der Versuch gemacht, eine möglichst vollständige Bibliographie mit einem fein gegliederten Sachschlüssel vorzulegen. Diese Zusammenstellung basiert auf einer seit einigen Jahren vom Verfasser betreuten Sichtlochkartei. Bei dem Ausbau dieser Kartei haben mich eine Reihe von Fachkollegen unterstützt; Frl. I. Klingenberg oblag ein wesentlicher Teil der technischen Arbeit; Dr. M. H. V. van Regenmortel half bei der englischen Version. Allen sei für ihre Mühe herzlich gedankt.

Braunschweig, im November 1966 *Jürgen Brandes*

Preface

Papers on electron microscopy of plant viruses are disseminated in many different journals and books and furthermore the titles of publications often do not indicate that they contain relevant data. This may be one of the reasons why existing great bibliographies (f. i. Bibliography of Plant Protection by J. Bärner, Biologische Bundesanstalt für Land- und Forstwirtschaft, Berlin-Dahlem; Bibliography of Electron Microscopy, The New York Society of Electron Microscopists) have many omissions and, therefore, cannot be considered as a complete and definitive survey of this field. The subdivisions of the subject indexes of these bibliographies are also of too broad a nature to be really useful for locating particular information items quickly.

To overcome these limitations an attempt has been made to compile a complete bibliography with an extensive and detailed subject index. This work is based on a punched card index which the author has used for some years. Several colleagues have helped in compiling this index; Miss I. Klingenberg gave her best in technical assistance; Dr. M. H. V. van Regenmortel was so kind to help in the English version. I give particular thanks to all of them.

Braunschweig, November 1966 *Jürgen Brandes*

Einführung

In dieser Bibliographie wurde versucht, alle über die Elektronenmikroskopie von Pflanzenviren berichtenden Arbeiten zu erfassen, die in den Jahren 1939 bis einschließlich 1965 erschienen sind. Sie besteht aus drei Teilen,

⊕ Autorenverzeichnis
⊕ Mitautorenverzeichnis
⊕ Sachverzeichnis

Im Autorenverzeichnis sind alle Publikationen alphabetisch nach den Namen der Autoren geordnet. Zwei oder mehr Arbeiten desselben Autors oder derselben Autoren sind nach dem Erscheinungsjahr aufgeführt. Aus zwei oder mehr Teilen bestehende Namen von Autoren werden als Einheit betrachtet; z. B. ist de Bokx also unter D, McKinney unter M und van der Want unter V eingeordnet. Die Referenzen sind mit fortlaufenden Zahlen versehen (Schlüsselzahlen). Diese Schlüsselzahlen kennzeichnen die betreffenden Arbeiten und werden im Mitautoren- und Sachverzeichnis verwendet.

Im Mitautorenverzeichnis sind alle Autoren, die nicht an erster Stelle in den Referenzen des Autorenverzeichnisses genannt sind, alphabetisch geordnet.

Das Sachverzeichnis ist eine klassifizierte Liste von Stichwörtern, die für diesen Zweck entworfen wurde. Unter jedem Stichwort sind die betreffenden Arbeiten mittels der Schlüsselzahlen chronologisch geordnet.

Introduction

In this bibliography of electron microscopy of plant viruses an attempt has been made to include all papers published during the period 1939 through 1965. This volume consists of three parts,

⊕ Author Index
⊕ Coauthor Index
⊕ Subject Index.

The Author Index contains all references arranged alphabetically by the names of the authors. Two or more papers by the same author(s) are arranged chronologically by year of publication. Names of authors composed of two or more parts are regarded as units; consequently de Bokx f. i. is listed under D, McKinney under M, or van der Want under V, respectively. All references are marked by item numbers. These item numbers are the means of identifying the reference in the Coauthor and Subject Indexes.

In the Coauthor Index all authors other than first authors are arranged alphabetically.

The Subject Index ist a classified list of terms developed for this bibliography. Every term is followed by the relevant item numbers, arranged chronologically, which refer to the respective papers in the author index.

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Mitautorenverzeichnis
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Sachverzeichnis
Subject Index

A. Allgemeiner Teil
General part

A. I. Zusammenfassende Arbeiten
Survey works

A. I. a) Handbücher, Buchkapitel
Handbooks, book chapters

A. I. b) Sammelreferate
Reviews

A. I. c) Andere Zusammenfassungen, populäre Darstellungen usw.
Other collective papers, popular reviews, etc.

1960	*1961*	*1962*	*1963*	*1964*	*1965*
729	731	815	123	808	944
	918		530	1003	
				1074	

A. I. d) Zusammenfassungen von bestimmten Gebieten
Reviews of selected fields

A. I. d) 1. Kartoffelviren
Potato viruses

1960	*1961*	*1962*	*1964*	*1965*
727	120	511	341	342
728				449
				525
				673
				879 a

A. I. d) 2. Leguminosenviren
Legume viruses

1958	*1960*	*1963*	*1964*	*1965*
106	104	99	101	626
			297	
			535 a	

A. I. d) 3. Verschiedenes
Miscellaneous

1955	*1956*	*1958*	*1960*	*1962*	*1964*	*1965*
75	523	512	344	76	509 a	572
937			385			920
						1084

A. II. Methoden
Methods

A. II. a) Präparationsmethoden
Preparation methods

1944	*1945*	*1946*	*1947*	*1948*	*1949*	*1951*	*1952*	*1953*	*1955*
1111	1112	1114	474	211	436	437	751	359	745
	1113	1121		435	861			760	761
								1098	937
									1128

1956	*1957*	*1958*	*1961*	*1962*	*1963*	*1964*	*1965*
116	118	532	490	734	497	124	383
	586	923		958	818	563	384
	688			1082	849	584	491
	952				1021	1052	

A. II. b) Färbungen
Staining

1955	*1957*	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
337	419	15	407	421	23	411	265	384
		16		422	900	859	513	552
		147		423			860	
		855		886				

A. II. c) Konzentrationsbestimmungen
Counts and assays

1944	*1950*	*1951*	*1952*	*1955*	*1956*	*1958*	*1960*	*1961*	*1965*
332	30	947	29	768	321	322	145	730	227
	946		521	950	649	650	954		
			862						
			948						

A. II. d) Größenbestimmungen
Determination of size

1950	*1953*	*1957*	*1958*	*1961*	*1962*	*1963*	*1964*	*1965*
445	248	128	73	58	618	667	124	351
		156	327				589	617
		376					1045	

A. II. e) Besondere Methoden
Special methods

1952	*1953*	*1956*	*1963*	*1964*	*1965*
22	148	441	588	3	6
				373	
				513	
				589	
				631	

A. III. Allgemeine Ergebnisse
General results

A. III. a) Allgemeine Strukturfragen
General problems of structure

1956	*1957*	*1960*	*1961*	*1962*	*1963*	*1965*
219	220	514	409	172	411	1067
441		580	443		765	

A. III. b) Klassifizierung
Classification

1943	*1947*	*1950*	*1953*	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*
789	995	794	715	132	350	120	574	578	124
795				312		409	575		
							1091		

1965
126
298

A. III. c) Virus-Antikörper-Reaktionen
Virus-antibody reactions

1940	*1941*	*1946*	*1947*	*1960*	*1961*	*1964*	*1965*
153	24	83	583	108	504	261	434
	839					341	
	1055					928	

A. III. d) Virus in der Pflanze
Virus inside plants

A. III. d) 1. Kleine isometrische Viren
Small isometric viruses

1950	*1953*	*1955*	*1956*	*1964*	*1965*
778	907	115	781	294	293
			788		295
			912		873
					876

A. III. d) 2. Tabakmosaik-Virus
Tobacco mosaic virus

1940	*1950*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*	*1960*
481	81	560	779	115	117	895	468	602	296
	778	890	780	891	316	1071	599	855	315
		962	1141	977	598		600	856	639
		975			649		601	1072	898
					653		604	1073	899
					781		896		
					894		897		
					1143				

1961	*1962*	*1963*	*1964*	*1965*
318	136	361	260	170
	900	859	319	362
	1057	904	320	529
		1036	320 a	903
		1077	415	
			858	
			860	
			902	
			965	
			1078	
			1079	
			1080	
			1081	

A. III. d) 3. Andere gestreckte Viren
Other elongated viruses

1950	*1953*	*1956*	*1958*	*1959*	*1961*	*1962*	*1963*	*1964*	*1965*
778	560	117	264	97	142	249	255	217	255 a
		380		856	218	250	371	415	363
		781			486	370		605	555
		788				414		606	
								784	
								786	

A. III. d) 4. Andere Viren und Verschiedenes
Other viruses and miscellaneous

1954	*1958*	*1960*	*1962*	*1963*	*1964*	*1965*
908	916	368	783	251	65	178
		773			424	492
					553	579
					875	785 a
					877	872
					878	

A. III. e) Virus im Vektor
Virus inside vectors

A. III. e) 1. Aphiden
Aphids

1956	*1957*	*1958*	*1959*	*1961*	*1962*	*1963*	*1965*
1050	1035	674	814	620	487	603	873
				621	623	622	876
				675	816		

A. III. e) 2. Zikaden
Leafhoppers

1958	*1963*	*1964*	*1965*
674	282	875	169
		877	369
		878	554
			585
			640
			871
			872
			874

A. III. f) Virusähnliche Partikeln, Normalproteine
Virus-like particles, normal proteins

1952	*1954*	*1956*	*1961*	*1963*	*1964*	*1965*
330	331	1086	120	253	124	360
450				622	1040	554
						694

B. Wirtspflanzen und Viren
Host plants and viruses

Dieses ist ein alphabetisches Verzeichnis von Wirtspflanzen und Viren. Die Viren sind unter den Wirtspflanzen aufgeführt, von denen ihr Vulgärname abgeleitet wurde. Es wurden auch alle Publikationen über diese Viren berücksichtigt, wenn sie von anderen Wirtspflanzen isoliert wurden, als ihr Vulgärname anzeigt. Eine Arbeit z. B. mit dem Titel „Anemone necrosis, a disease caused by a strain of tobacco ringspot virus" ist sowohl unter „Anemone" als auch unter „Tobacco ringspot virus" aufgeführt.

Neben die Virusnamen oder die Schlüsselzahlen wurden vier verschiedene Symbole gesetzt, die auf die morphologischen Gruppen der Viren nach folgendem Schema verweisen:

- o Kleine isometrische Viren (Durchmesser bis 50 mμ)
- ‖ Gestreckte Viren (Länge bis 2000 mμ, Durchmesser etwa 10 bis 25 mμ)
- * Viren mit anderer Form und Größe
- ? Viren mit unbekannter Form und Größe

This is an alphabetical list of host plants and viruses. The viruses have been listed under the host plants from which their common names have been derived. All publications about these viruses have also been included if they were isolated from host plants other than the ones from which their common names were

derived. A paper f. i. with the title "Anemone necrosis, a disease caused by a strain of tobacco ringspot virus" is listed under "Anemone" as well as under "Tobacco ringspot virus".

Beside the virus names or the item numbers four different symbols have been printed, which refer to the morphological groups of viruses according to the following classification:

- o Small isometric viruses (diameter up to 50 mμ)
- || Elongated viruses (length up to 2000 mμ, diameter about 10 to 25 mμ)
- * Viruses of other shape and size
- ? Viruses of unknown shape and size

ABACÁ (Musa)

1963
254 ||

ABUTILON

1964	*1965*
978 *	979 *

ACKERBOHNE: Broad bean

AGROPYRON

1957	*1959*	*1963*	*1964*
313 ||	312 ||	945 ||	146 ||

ALFALFA (Luzerne)

Alfalfa mosaic virus (Luzernemosaik-Virus) *

1958	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
34	36	277	54	301	68	269
			485		1046	384

ALGAE

1960	*1963*	*1964*	*1965*
1140	799	209	1029
		830	

ALLIARIA

1958	*1963*
90 ||	143 ||

ALLIUM: Onion

AMARYLLIS: Hippeastrum

ANEMONE

1957	*1965*
387 ?	394 o

APFEL: Apple

APPLE (Apfel)

1963	*1964*	*1965*
159 ||	223 ||	160 ||
616 o	483 ||	489 o
	566 ||	567 ||

ARABIS

Arabis mosaic virus

1960	*1963*	*1964*	*1965*
161	393	294	295
350		999	

ARTICHOKE

1961	*1964*
630 ‖	124 ‖
	594 ‖

ASPARAGUS (Spargel)

1964	*1965*
124 ‖	259 ‖
257 ‖	

ASTER

1962
201 ‖

Aster yellows virus o

1958	*1959*
720	725
721	

BARLEY (Gerste)

1964
802 ‖
803 ‖

Barley stripe mosaic virus (Streifenmosaik-Virus der Gerste) ‖

1954	*1958*	*1959*	*1962*	*1963*	*1964*	*1965*
314	689	119	668	300	800	351
		312			981	384
		467				612
		856				

Barley yellow dwarf virus o

1964
112
767

BAUMWOLLE: Cotton

BEAN (Bohne)

1949	*1955*
52 o	1031 ‖

Bean pod mottle virus o

1964	*1965*
866	850

Bean yellow mosaic virus ‖

1951	*1954*	*1955*	*1956*	*1957*	*1959*	*1960*	*1963*	*1965*
235	1033	130	739	128	35	57	787	255 a
	1037		788		241			771
								785

Common bean mosaic virus ‖

1954	*1955*	*1963*	*1964*
1033	130	811	124
			1138

Southern bean mosaic virus o

1945	*1946*	*1948*	*1951*	*1955*	*1957*	*1962*	*1963*	*1964*
712	615	1124	798	538	540	957	533	326
	709							
	714							

BEET (Rübe)

Beet curly top virus ?

1956
1006 ‖

Beet mosaic virus (Rübenmosaik-Virus) ‖

1956	*1957*	*1958*	*1960*	*1964*
827	128	740	57	139
1144			262	

Beet yellow net virus ?

1957	*1958*	*1962*
151	72	1068

Beet yellows virus (Rübenvergilbungs-Virus) ‖

1951	*1953*	*1955*	*1956*	*1957*	*1958*	*1959*	*1963*	*1964*	*1965*
49	560	135	634	151	633	408	53	139	703
559				329			255	828	807
654							797		

BIDENS

1961
493 ‖

BLUEBERRY (Vaccinium)

1964
748 o

BLUMENKOHL: Brassica

BOHNE: Bean

BOTTLE GOURD (Lagenaria)

1960
19 ‖

BRASSICA (Cabbage, cauliflower, rape, turnip, Blumenkohl, Kohl, Kohlrübe)

1949	*1950*	*1951*	*1964*	*1965*
984 ‖	545 ‖	798 ‖	182 ‖	498 *
				692 o

Cauliflower mosaic virus (Blumenkohlmosaik-Virus) o

1950	*1956*	*1960*	*1961*
778	781	228	412
		700	701
		1016	

Turnip crinkle virus o

1962	*1965*
587	384

Turnip mosaic virus (Cabbage black ringspot virus, Kohlrübenmosaik-Virus) ‖

1950	*1951*	*1956*	*1957*	*1958*	*1959*	*1960*	*1962*	*1963*	*1965*
545	49	781	387	90	1015	868	706	143	184
778			1030					964	363
								1017	963
								1134	1018
									1024

Turnip yellow mosaic virus o

1948	*1949*	*1950*	*1951*	*1953*	*1956*	*1957*	*1959*	*1960*	*1961*
64	590	778	798	906	210	515	455	420	423
214					441			453	
					539			651	
					781			954	

1963	*1964*	*1965*
438	3	384
578		1014

BROAD BEAN (Ackerbohne)

1962	*1964*	*1965*
659 ‖	242 o	535 ‖
	243 o ‖	568 o ‖
		785 ‖

Broad bean mottle virus o

1951	*1956*	*1960*	*1965*
44	788	1088	384

Broad bean true mosaic virus (Echtes Ackerbohnenmosaik-Virus) o

1958	*1960*	*1964*
686	1088	242
		243

BROME GRASS

Brome grass mosaic virus (Ryegrass streak virus, Weidelgrasmosaik-Virus) o

1956	*1960*	*1963*	*1964*
441	671	20	738
442		188	817
		669	

CABBAGE: Brassica

CACTUS (Kakteen, Opuntia)

1955	*1959*	*1964*
976 ‖	132 ‖	124 ‖

Cactus virus X (Kakteen-X-Virus) ‖

1956	*1957*	*1958*	*1959*	*1961*	*1962*	*1964*
12	13	14	132	805	4	702
					125	

Sammons Opuntia virus ‖

1961	*1962*	*1964*	*1965*
805	4	124	127
			186

CAMPANULA

1964	*1965*
596 *	657 o

CANNA

1956
173 ‖

CAPSICUM (Red pepper)

1956	*1964*
328 ‖	325 ‖
	543 ‖
	619 ‖

CARNATION (Nelke)

Carnation etched ring virus o

1961
398

Carnation latent virus ‖

1954	*1959*	*1960*	*1961*	*1963*	*1964*	*1965*
460	134	1083	1087	122	737 a	1133

Carnation mottle virus; Carnation mosaic virus o

1951	*1952*	*1955*	*1963*	*1964*
18	17	461	1004	399
658				1053

Carnation ringspot virus o

1955	*1964*	*1965*
461	1053	400

Carnation yellows virus o

1951
235

CARROT (Möhre)

1964	*1965*
1068 a	189 ‖

CASSAVA

1964	*1965*
495 ‖	502 ‖

CATTLEYA : Orchid

CAULIFLOWER : Brassica

CELERY (Sellerie)

1965
395 o

CENTROSEMA

1963
224 ‖

CHAMPIGNON : Mushroom

CHENOPODIUM

1958
882 o

CHERRY (Kirsche)

1953	*1956*	*1958*	*1961*	*1962*	*1963*	*1964*
1010 o	1116 o	1005 o	222 o	770 o	159 ‖	565 o
					672 o	

Cherry necrotic ringspot virus o

1959	*1962*	*1963*
285	1042	672
286		1043

CHIKORY (Zichorie)

1962
141 ‖

CHRYSANTHEMUM

1952
656 o

Chrysanthemum virus B ‖

1952	*1957*	*1962*	*1963*	*1964*
656	388	335	122	124

CITRUS

1964	*1965*
204 o	581 o
226 o	851 ‖
	1069 ‖

Citrus tristeza virus ‖

1962	*1963*	*1964*	*1965*
710	499	500	501
			883

CLOVER (Trifolium, Klee)

1959	*1965*
241 ‖	397 ‖
	771 ‖

Clover yellow mosaic virus ‖

1961	*1962*	*1963*	*1964*
707	4	59	267
708	5		

Red clover mottle virus o

1960	*1965*
887	105

Red clover vein mosaic virus (Rotkleeadernmosaik-Virus) ‖

1959	*1962*	*1964*
333	1090	1139
1089		

White clover mosaic virus (Weißkleemosaik-Virus) ‖

1954	*1957*	*1959*	*1960*	*1961*	*1962*	*1964*	*1965*
1033	131	103	37	58	4	256	425
			279	707			
				708			

Wound-tumor virus *

1954	*1955*	*1962*	*1964*	*1965*
114	75	70	508	77
		71	875	585
		80	877	870
			878	871
				872
				874

COCKSFOOT (Dactylis, orchard grass, Knaulgras)

1959

312 ‖

Cocksfoot mottle virus o

1964

854

Cocksfoot streak virus ‖

1959	*1963*
119	670
	845

COCOA (Kakao)

Cocoa swollen shoot virus *

1964

150

Cocoa yellow mosaic virus o

1965

149

COCONUT (Kokospalme)

1957

662 ?

CONVOLVULUS

1955

1061 *

CORN (Maize, Mais)

1963

413 ‖

Stämme des Zuckerrohrmosaik-Virus auf Mais
Strains of sugarcane mosaic virus on corn
(Maize dwarf virus, maize stripe mosaic virus,
sorghum red stripe virus etc.) : Sugarcane mosaic virus 2.

Corn mosaic virus 1 *

1960 *1965*

368 369

COTTON (Baumwolle)

1957

772 o

COWPEA (Vigna)

1958 *1959* *1963* *1964* *1965*

42 ‖ 119 ‖ 533 o 534 o 127 ‖

Cowpea mosaic virus (beetle tr.) o

1962 *1964* *1965*

183 2 850

166

167

866

Cowpea mosaic virus (aphid tr.) ‖

1964 *1965*

124 571

CROTALARIA : Sannhemp

CUCUMBER (Gurke)

1953 *1955* *1963*

715 o ‖ 736 ‖ 393 o

Cucumber green mottle mosaic virus (Cucumber viruses 2,3 and 4): Tobacco mosaic virus 6. a)

Cucumber mosaic virus (Gurkenmosaik-Virus) o

1951 *1952* *1955* *1956* *1957* *1958* *1959* *1961* *1962* *1963*

235 656 745 1058 329 1032 1023 1039 1044 847

881 1115

1964 *1965*

66 293

67 384

636

657

Wild cucumber mosaic virus o

1957 *1963* *1965*

885 578 382

383

384

CURRANT (Ribes, Johannisbeere)

1961 *1964*

346 o 565 o

CYMBIDIUM : Orchid

DACTYLIS : Cocksfoot

DAHLIA

1951

557 o

DIPSACUS : Teasel

DUCKWEED (Spirodela)

1965
531 ‖

ELDER (Sambucus)

1964
138 ‖
565 o

ELM (Ulmus)

1953	*1958*
1010 o	1005 o

ERBSE : Pea

ERDBEERE : Strawberry

EUCHARIS

1962	*1964*
448 o	124 ‖

FESTUCA

1963
819 ‖

FREESIA

1954	*1964*
1037 ‖	124 ‖

GERBERA

1962	*1965*
966 ‖	967 ‖

GERSTE : Barley

GLADIOLUS

1954	*1959*	*1964*	*1965*
737 ‖	132 ‖	124 ‖	179 o
		274 o	

GRAPEVINE (Vitis, Rebe)

1955	*1958*	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*
482 o	663 o ‖	646 ?	161 o	121 ‖	54 *	245 o	999 o
	664 o ‖	665 ‖	666 ‖		244 o	251 ?	1062 o
					372 o	323 o	
						595 o	

GURKE : Cucumber

HAFER : Oats

HENBANE (Hyoscyamus)

Henbane mosaic virus ‖

1950	*1951*	*1959*
778	49	119

HIMBEERE : Raspberry

HIPPEASTRUM (Amaryllis)

1951	*1964*	*1965*
437 ‖	737 a ‖	137 ‖
	759 ‖	

HOP (Humulus, Hopfen)

1958	*1959*	*1960*	*1961*	*1962*	*1964*	*1965*
744 ‖	132 ‖	176 ‖	661 ‖	177 ‖	124 ‖	823 ‖
	660 ‖		826 ‖		822 ‖	824 ‖
						825 ‖

HOPFEN : Hop

HORTENSIE : Hydrangea

HUMULUS : Hop

HYDRANGEA (Hortensie)

Hydrangea ringspot virus ‖

1957	*1958*	*1961*	*1963*
888	389	58	252

HYOSCYAMUS : Henbane

IMPATIENS

1956	*1964*
317 ‖	67 o

JOHANNISBEERE : Currant

KAKAO : Cocoa

KAKTEEN : Cactus

KALANCHOE

1960
386 ‖

KARTOFFEL : Potato

KIRSCHE : Cherry

KLEE : Clover

KNAULGRAS : Cocksfoot

KOHL : Brassica

KOHLRÜBE : Brassica

KOKOSPALME : Coconut

KÜRBIS : Pumpkin

LAGENARIA : Bottle gourd

LEVKOJE : Matthiola

LETTUCE (Salat)

1963	*1965*
306 ‖	1054 o

Lettuce mosaic virus (Salatmosaik-Virus) ‖

1954	*1959*	*1962*	*1964*
215	119	1020	1022

Lettuce necrotic yellows virus *

1965

178
347

LILIUM

1953	*1957*	*1964*
715 ‖	719 ‖	1129 ‖

LOLIUM : Ryegrass

LUZERNE : Alfalfa

LYCHNIS

1963

300 ‖

MAIS : Corn

MAIZE : Corn

MALVA

1962	*1964*
496 ‖	821 ‖

MATTHIOLA (Levkoje)

1957	*1958*	*1964*
1030 ‖	90 ‖	737 a ‖

MELILOTUS (Steinklee)

1957

131 ‖
742 ‖

MOHRE : Carrot

MUSA : Abacá

MUSHROOM (Champignon)

1962	*1963*	*1965*
288	396	402
391		544
392		

NARCISSUS

1951	*1961*	*1964*
235 ‖	218 ‖	217 ‖
		737 a ‖

NASTURTIUM

1962

926 o

NELKE : Carnation

NOTHOSCORDUM

1957

313 ‖

OATS (Hafer)

1953	*1959*
1010 ‖	312 ‖
	724 ‖

ODONTOGLOSSUM : Orchid

ONION (Allium, Zwiebel)

1953	*1956*	*1961*	*1963*
893 ‖	1059 ‖	733 ‖	164 o

Onion yellow dwarf virus (Zwiebelgelbstreifen-Virus) ‖

1961	*1964*
925	820

OPUNTIA : Cactus

ORCHARD GRASS : Cocksfoot

ORCHID (Orchideen)

1950	*1951*	*1952*	*1953*	*1954*	*1955*	*1958*	*1964*
305 ‖	798 ‖	310 ‖	1010 ‖	1137 ‖	717 ‖	635 ‖	1007 ‖
644 ‖		645 ‖					

Cymbidium mosaic virus ‖

1951	*1955*	*1958*	*1959*	*1960*	*1963*	*1964*
309	432	635	205	198	202	124
						439
						440

Odontoglossum ringspot virus: Tobacco mosaic virus 6. b)

ORCHIDEEN : Orchid

ORNITHOPUS : Seradella

PAPAYA

1965
232 ‖

Papaya ringspot virus ‖

1962	*1964*	*1965*
370	124	232

PAPPEL : Poplar

PASSIFLORA

1963	*1964*
1000 ‖	236 ‖
	1001 ‖

Passiflora latent virus ‖

1961	*1963*
831	122
	133

PEA

1951	*1958*	*1964*
798 ‖	740 ‖	426 ‖
		784 ‖

Pea early-browning virus ‖

1962	*1963*	*1964*
107	100	10
		299

Pea enation mosaic virus o

1964	*1965*
152	873
	876

Pea mosaic virus (Erbsenmosaik-Virus) ‖

1959	*1962*	*1964*	*1965*
132	659	124	535

Pea streak virus (Wisconsin pea streak virus, Erbsenstrichel-Virus, etc.) ‖

1950	*1951*	*1953*	*1957*	*1959*	*1962*	*1963*	*1964*	*1965*
935	936	889	131	1089	1090	774	267	268
			742					775

PEACH (Pfirsich)

1958	*1963*	*1964*
1005 o	159 ‖	565 o

Peach yellow bud virus : Tomato ringspot virus

PELARGONIUM

Pelargonium leaf curl virus o

1962	*1965*
390	401

PEPPER : Capsicum

PETUNIA

1959	*1962*
782 *	783 *

PFIRSICH : Peach

PFLAUME : Plum

PHLOX

1947	*1964*
290 ‖	737 a o

PICEA : Spruce

PLUM (Prunus, Pflaume)

1957	*1959*	*1963*	*1965*
1115 o	286 o	159 ‖	160 ‖
			1019 o

Plum pox virus ‖

1964
484

POPLAR (Pappel)

Poplar mosaic virus (Pappelmosaik-Virus) ‖

1959	*1962*	*1963*	*1964*
132	61	122	62
	140		812
			820

POTATO (Kartoffel)

1951	*1952*	*1954*	*1963*
798	330	331	31

Potato aucuba mosaic virus

1956	*1964*	*1965*
685	124	673

Potato leaf roll virus (Kartoffelblattroll-Virus) ?

1952	*1954*	*1955*	*1958*	*1961*	*1962*	*1963*
930	931	366	229	620 621	623	622

Potato spindle tuber virus o ?

1963	*1964*
165	56

Potato stem mottle virus : Tobacco rattle virus

Potato virus A (Kartoffel-A-Virus)

1956	*1957*	*1964*
684	128	124

Potato virus M (Potato paracrinkle virus, Kartoffel-M-Virus)

1950	*1956*	*1958*	*1959*	*1965*
46	1086	25 777	134	384

Potato virus S (Kartoffel-S-Virus)

1952	*1955*	*1956*	*1959*	*1965*
234	307 1085 1132	1086	134 312	673

Potato virus X (Kartoffel-X-Virus)

1940	*1941*	*1946*	*1947*	*1948*	*1950*	*1951*	*1952*	*1953*	
472	476	993	45	47	506	49	91	451	
796				1034	542	235	522	560	
						437		715	
						526			
1954	*1955*	*1956*	*1958*	*1959*	*1960*	*1961*	*1962*	*1964*	*1965*
26	92	60	558	48	206	58	494	96	384
452	280		722	97		199		563	433
			723	312		200		628	531
			755	756		486		928	629
				757				1046	673
								1052	

Potato virus Y (Kartoffel-Y-Virus)

1951	*1952*	*1956*	*1957*	*1958*	*1960*	*1962*	*1963*	*1964*	*1965*
49	216	93	128	264	57	201	365	231	384
235	833			722		494		543	673
				723				1052	

Potato yellow dwarf virus *

1948	*1950*	*1951*	*1955*	*1965*
82	109	110	75	84

Stolbur virus o

1955	*1958*
1061	85

PRIMROSE (Primula)

1962
624 o

PRIMULA : Primrose

PRUNUS : Plum

PUMPKIN (Kürbis)

1951	*1965*
798 o	258 ?

RADICULA

1962
324 ‖

RADISH (Raphanus, Rettich)

1952	*1959*	*1960*	*1963*	*1965*
986 ‖	1015 ‖	1016 o	1017 ‖	1018 ‖

Radish mosaic virus o

1961	*1964*
412	166
	167

RANUNCULUS

1957	*1963*	*1964*
743 ‖	569 ‖	570 ‖

RAPE : Brassica

RAPHANUS : Radish

RASPBERRY (Himbeere)

1963	*1964*	*1965*
159 ‖	565 o	160 ‖
		932 o

Raspberry ringspot virus o

1960	*1961*	*1962*	*1964*
350	346	770	233

REBE : Grapevine

REIS : Rice

RETTICH : Radish

RHABARBER : Rhubarb

RHUBARB (Rhabarber)

1960
576 ‖

RIBES : Currant

RICE (Reis)

Rice dwarf virus *

1960	*1962*	*1963*	*1964*	*1965*
284	283	281	875	640
		282		870
				1026

RUBE : Beet

RYEGRASS (Lolium, Weidelgras)

1960	*1963*	*1964*
632 ‖	845 ‖	124 ‖

Ryegrass streak virus (Weidelgrasmosaik-Virus) : Brome grass mosaic virus

SALAT : Lettuce

SAMBUCUS : Elder

SANNHEMP

1951
225 o
230 o

SELLERIE : Celery

SERADELLA (Ornithopus)

1956
739 ‖

SOJA : Soybean

SORGHUM : Sugarcane

SOYBEAN (Soja)

Soybean mosaic virus ‖

1959	*1961*	*1962*	*1963*	*1964*
132	741	239	287	124
			564	240

SPARGEL : Asparagus

SPINACEA

1957
329 o ‖

SPIRODELA : Duckweed

SPRUCE (PICEA)

1958	*1961*
174 *	175 *

SQUASH

Squash mosaic virus o

1947	*1948*	*1955*	*1956*	*1965*
994	983	763	562	641
				1019

STEINKLEE : Melilotus

STELLARIA

1965
657 o

STRAWBERRY (Erdbeere)

1951

1009 o

Strawberry latent ringspot virus o

1964

565

SUGARCANE (Zuckerrohr)

1953	*1960*
1010 ‖	266 o

Sugarcane mosaic virus ‖

1. Allgemeines
   General

1955	*1959*	*1960*	*1962*	*1963*	*1964*	*1965*
311	312	246	249 250	254	124	275

2. Stämme auf Mais und Sorghum
   Strains on corn and sorghum
   (Maize dwarf virus, maize stripe mosaic virus, sorghum red stripe virus, etc.)

1959	*1960*	*1963*	*1964*	*1965*
119	246 681	371	55 124	275 848 867 1008 1025 1092

SWEET POTATO

1963

804 o

TABAK : Tobacco

TEASEL (Dipsacus)

1965

292 ‖

TOBACCO

1949	*1951*	*1952*	*1956*	*1961*
863 o ‖	864 o	968 o	374 o 375 o	884 *

Tobacco etch virus ‖

1950	*1951*	*1959*	*1962*	*1964*	*1965*
778	49	119	201	543 786 605 606	384

Tobacco mosaic virus (Tabakmosaik-Virus) ‖

1. Zusammenfassende Arbeiten
Summarizing papers

1940	*1945*	*1953*	*1954*	*1957*	*1959*	*1960*	*1964*	*1965*
550	696	834	835	698	270	302	589	33 a
					547	766		
						879		

2. Allgemeine Ergebnisse
General results

1939	*1940*	*1941*	*1946*	*1947*	*1949*	*1951*	*1952*	*1953*	*1955*
477	796	476	678	838	1108	49	91	715	303
					1109	235		1066	1048
						437			
						527			
						1106			

1957	*1958*	*1959*	*1960*	*1961*	*1962*	*1964*	*1965*
304	558	312	456	458	459	563	11
921	1136		457	648	957	754	384
922			1118	1028		1046	
						1051	
						1052	

3. Feinstruktur
Fine structure

1952	***1953***	***1955***	*1956*	*1957*	*1958*	*1959*	*1960*	*1961*	*1962*
1095	**974**	**352**	32	154	263	929	655	356	607
1096	1097	353	608	155	355		954		
			846	419					
				609					

1963	*1964*	*1965*
357	265	334
	589	
	965	

4. Messungen der Teilchengröße
Measurements of particle size

1941	*1942*	*1944*	*1947*	*1949*	*1950*	*1951*	*1956*	*1958*	*1962*
940	273	546	520	809	445	39	776	94	494
941	749		880			843		322	
						1107		338	
						1110			

1964	*1965*
589	127

5. TMV-Stämme
TMV-strains

1940	*1947*	*1949*	*1951*	*1953*	*1956*	*1958*	*1962*	*1963*	*1964*
614	289	446	798	74	427	1013	324	181	182
1027	290								325
	677								
	995								

1965
259
638

6. Mit TMV entfernt verwandte Viren
Viruses distantly related to TMV

6. a) Cucumber green mottle mosaic virus
(Cucumber viruses 2, 3, and 4)

1941	*1947*	*1951*	*1953*	*1955*	*1957*	*1959*	*1961*	*1962*	*1964*
940	520	798	715	518	488	561	142	144	927
941								414	
								415	
								901	

1965
278
1060

6. b) Odontoglossum ringspot virus (orchid-TMV)

1951	*1956*	*1958*	*1963*	*1964*	*1965*
431	693	635	202	124	127
					687

6. c) Andere
Others

1941	*1942*	*1958*	*1959*	*1964*	*1965*
403	516	42	119	124	127

7. Verschiedene Längenfraktionen; Begleitpartikeln; Teilchensynthese
Different lengths fractions; accompanying particles; particle synthesis

1945	*1946*	*1948*	*1949*	*1951*	*1952*	*1953*	*1954*	*1955*	*1957*
40	221	996	997	475	990	428	429	987	971
50	750		998		991	560	1065		
						973			
						992			

1958	*1959*	*1960*	*1962*	*1963*	*1964*	*1965*
972	194	1142	193	955	190	416
	699		195	1036	417	418
	988		196			
	989		197			
			982			

8. Degradation, Reconstitution

1942	*1943*	*1955*	*1956*	*1958*	*1959*	*1961*	*1962*	*1963*	*1964*
191	832	272	358	548	503	507	201	377	180
519		764				857	405	711	187
		841							203
		842							271
		844							1135

1965
187 a
610
806

9. Effekt von chemischen Einflüssen
Effect of chemical influences

1939	*1940*	*1947*	*1955*	*1958*	*1960*	*1965*
479	472	790	343	238	647	625
	840				934	

10. Effekt von physikalischen Einflüssen
Effect of physical influences

1941	*1947*	*1948*	*1949*	*1951*	*1953*	*1956*	*1957*	*1958*	*1960*
478	582	791	985	642	643	354	381	869	690
	676				760	762			
	695								

1962	*1963*
505	367

11. Kristallisation
Crystallization

1939	*1946*	*1947*	*1952*	*1953*	*1954*	*1957*	*1959*	*1963*
480	865	1122	961	962	780	952	379	577

12. TMV in ultradünnen Schnitten
TMV in ultrathin sections : A. III. d) 2.

Tobacco necrosis virus (Tabaknekrose-Virus) o

1. Allgemeines
General

1941	*1945*	*1947*	*1948*	*1949*	*1950*	*1951*	*1955*
940	712	592	593	52	51	49	745
941						235	
						798	

1957	*1958*	*1959*	*1960*	*1962*	*1963*	*1964*	*1965*
157	536	537	462	27	28	737 a	384
769	541					1053	1054

2. Satellite virus

1960	*1961*	*1962*	*1964*	*1965*
465	466	463	464	276
			758	

Tobacco rattle virus (Potato stem mottle virus, Tabakmauche-Virus, Stengelbuntvirus der Kartoffel) ‖

1948	*1951*	*1955*	*1957*	*1958*	*1959*	*1961*	*1962*	*1963*	*1964*
1034	235	683	291	679	348	345	158	8	10
		745		1049	349		966	9	570
				1063	652			306	1052
					1064			569	

1965
384
967

Tobacco ringspot virus (Tabakringflecken-Virus) o

1951	*1952*	*1953*	*1956*	*1959*	*1960*	*1962*	*1964*	*1965*
49	852	237	951	454	206	207	748	384
		949			954	448		394
								747
								933

TOMATO

1940	*1955*	*1963*	*1965*
614 ‖	1061 *	365 ‖	638 ‖

Tomato black ring virus o

1960	*1963*	*1965*
350	164	395

Tomato bushy stunt virus o

1941	*1942*	*1945*	*1946*	*1948*	*1949*	*1950*	*1951*
940	942	696	713	959	960	1105	49
941		712			1104		798

1955	*1956*	*1960*	*1962*	*1964*	*1965*
745	912	954	390	69	401

Tomato ringspot virus o

1954	*1955*	*1961*	*1962*	*1963*	*1964*	*1965*
853	447	162	163	323	1076	932
		1075	372			

Tomato spotted wilt virus *

1952	*1955*	*1963*	*1964*	*1965*
78	75	79	65	492
		497	424	
			596	

TRIFOLIUM : Clover

TULIP (Tulpe)

Tulip mosaic virus (Tulip breaking virus) ‖

1951	*1959*	*1963*	*1964*	*1965*
235	132	1130	7	185
		1131	124	
			138 a	
			1129	

TURNIP : Brassica

ULMUS : Elm

VACCINIUM : Blueberry

VETCH (Wicke)

1965
268 ‖

VIGNA : Cowpea

VITIS : Grapevine

WASSERMELONE : Watermelon

WATERMELON (Wassermelone)

Watermelon mosaic virus (Wassermelonenmosaik-Virus) ‖

1960	*1962*	*1963*	*1964*	*1965*
1038	1041	627	426	813
	1044			1070

WEIDELGRAS : Ryegrass

WEIZEN : Wheat

WHEAT (Weizen)

Soil-borne wheat mosaic virus (Bodenbürtiges Weizenmosaik-Virus) ‖

1953	*1955*	*1956*	*1957*	*1959*	*1960*	*1961*	*1964*	*1965*
1010	364	380	313	312	247	801	129	24 a
							168	111
							802	
							803	

Wheat streak mosaic virus (Weizenstreifenmosaik-Virus) ‖

1953	*1958*	*1959*	*1960*	*1962*	*1963*	*1964*	*1965*
308	113	119	632	705	413	124	555
		312			752	980	735
					753		
					892		
					945		

Wheat striate mosaic virus *

1963	*1964*
556	553

WICKE : Vetch

ZICHORIE : Chikory

ZUCKERROHR : Sugarcane

ZWIEBEL : Onion

C. Anhang: Pflanzenviren, zusammengestellt auf morphologischer Grundlage

Addendum: Plant viruses arranged on morphological basis

A. Kleine isometrische Viren (Durchmesser bis etwa 50 mμ)
Small isometric viruses (diameter up to about 50 mμ)

Diese Viren sind nach dem Vorschlag von Gibbs und Harrison (unveröffentlicht) zusammengestellt.

These viruses have been grouped according to Gibbs and Harrison (unpublished).

1. Turnip yellow mosaic virus group
   Turnip yellow mosaic virus
   Wild cucumber mosaic virus
   Cocoa yellow mosaic virus

2. Squash mosaic virus group
   Squash mosaic virus
   Cowpea mosaic virus (beetle tr.)
   Bean pod mottle virus
   Red clover mottle virus

3. Arabis mosaic virus group
   Arabis mosaic virus
   Grapevine fanleaf virus
   Raspberry ringspot virus
   Strawberry latent ringspot virus

Tobacco ringspot virus
Tomato ringspot virus
Tomato black ring virus

4. Cucumber mosaic virus group
   Cucumber mosaic virus
   Tomato aspermy virus
5. Tobacco necrosis virus
6. Tomato bushy stunt virus group
   Tomato bushy stunt virus
   Pelargonium leaf curl virus
   Turnip crinkle virus (?)
7. Tobacco necrosis satellite virus
8. Cauliflower mosaic virus

Andere kleine isometrische Viren
Other small isometric viruses

Barley yellow dwarf virus
Broad bean mottle virus
Broad bean true mosaic virus
Brome grass mosaic virus (= Ryegrass streak virus, Weidelgrasmosaik-Virus)
Carnation mottle virus (= Carnation mosaic virus ?)
Carnation ringspot virus
Carnation etched ring virus
Cocksfoot mottle virus
Pea enation mosaic virus
Southern bean mosaic virus

B. Gestreckte Viren (Länge bis etwa 2000 mμ, Durchmesser etwa 10 bis 25 mμ)
Elongated viruses (length up to about 2000 mμ, diameter about 10 to 25 mμ)

Diese Zusammenstellung erfolgt nach Länge, Form und Durchmesser der Virusteilchen (Brandes, 1964).

These viruses have been arranged by length, shape, and diameter of the virus particles (Brandes, 1964).

1. Starre Stäbchen, Länge bis 300 mμ, Durchmesser etwa 22 bis 25 mμ
   Rigid rods, length up to 300 mμ, diameter about 22 to 25 mμ
   Barley stripe mosaic virus
   Pea early-browning virus
   Tobacco rattle virus (Potato stem mottle virus)
   Soil-borne wheat mosaic virus
2. Starre Stäbchen, Länge etwa 300 mμ, Durchmesser etwa 18 mμ
   Rigid rods, length about 300 mμ, diameter about 18 mμ
   Tobacco mosaic virus
   Cucumber green mottle mosaic virus
   Odontoglossum ringspot virus
   Sammons Opuntia virus
3. Flexible Fäden, Länge 480 bis 580 mμ, Durchmesser etwa 10 bis 12 mμ
   Flexuous rods, length 480 to 580 mμ, diameter about 10 to 12 mμ
   Cactus virus X
   Clover yellow mosaic virus
   Cymbidium mosaic virus

Hydrangea ringspot virus
Potato aucuba mosaic virus (Potato virus F)
Potato virus X
White clover mosaic virus

4. Stäbchen, starr bis flexibel, Länge 600 bis 700 mμ, Durchmesser etwa 12 bis 15 mμ
Rods, rigid to flexuous, length 600 to 700 mμ, diameter about 12 to 15 mμ

Carnation latent virus
Chrysanthemum virus B
Passiflora latent virus
Pea streak virus (Wisconsin pea streak virus)
Poplar mosaic virus
Potato virus M (Potato paracrinkle virus)
Potato virus S
Red clover vein mosaic virus
Wheat streak mosaic virus

5. Flexible Fäden, Länge 700 bis 850 mμ, Durchmesser etwa 12 bis 15 mμ
Flexuous rods, length 700 to 850 mμ, diameter obout 12 to 15 mμ

Bean yellow mosaic virus
Beet mosaic virus
Cocksfoot streak virus
Common bean mosaic virus
Cowpea mosaic virus (aphid tr.)
Henbane mosaic virus
Lettuce mosaic virus
Papaya ringspot virus
Pea mosaic virus
Potato virus A
Potato virus Y
Sugarcane mosaic virus
Tobacco etch virus
Tulip mosaic virus (Tulip breaking virus)
Turnip mosaic virus (Cabbage black ring virus)

6. Flexible Fäden, Länge 1000 bis 2000 mμ, Durchmesser etwa 10 mμ
Flexuous rods, length 1000 to 2000 mμ, diameter about 10 mμ

Beet yellows virus
Citrus tristeza virus
Festuca virus

C. Viren mit anderer Form und Größe
Viruses of other shape and size

1. Kleine anisometrische Viren
Small anisometric viruses

Alfalfa mosaic virus
Cocoa swollen shoot virus
Mushroom virus

2. Große anisometrische Viren
Large anisometric viruses

Corn mosaic virus 1
Lettuce necrotic yellows virus
Wheat striate mosaic virus

3. Große isometrische Viren (Durchmesser mehr als 50 mμ)
   Large isometric viruses (diameter more than 50 mμ)
   Clover wound tumor virus
   Potato yellow dwarf virus
   Rice dwarf virus
   Tomato spotted wilt virus