

2020–2022년 국내에서 새롭게 보고된 식물바이러스 및 기주 식물

Plant Viruses and Viral Host Plants Newly Reported in South Korea in 2020–2022

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With the development of advanced virus diagnostic technologies, numerous viruses, including novel viruses, have been identified explosively from various biological samples around the world over the last decade. For plant viruses, approximately 376 novel viruses have been reported in the last three years. Information on the occurrence and host ranges of plant viral diseases in a particular country or region is very important for diagnosis, quarantine, and control of the viral diseases. Recently, based on active research on the diagnosis and identification of plant viruses, a significant number of newly occurring viruses and new viral host plants have been reported in South Korea. This review paper provides integrated information on plant viruses and viral host plants newly reported in South Korea between 2020 and 2022 to help diagnose, control, and quarantine plant virus diseases in crop fields.

Keywords: Novel virus, Plant virus, South Korea, Viral host, Virus occurrence

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서론

RNA-sequencing과 같은 차세대 염기서열 분석 기술을 비롯한

다양한 바이러스 진단 기술의 급속한 발달에 힘입어 최근 몇 년 사이 전 세계적으로 동물, 식물, 미생물 등을 포함한 다양한 생물 시료로부터 신종 바이러스가 폭발적으로 보고되고 있다 (Villamor 등, 2019). International Committee on Taxonomy of Viruses (ICTV)의 자료에 따르면 2019년 6월 기준으로 6,590 종의 바이러스가 보고된 바 있으나, 2022년 11월 기준 11,273 종

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의 바이러스가 보고됨에 따라, 약 3년 사이 4,683종의 신종 바이러스가 발견되었음을 알 수 있다(Walker 등, 2022). 식물바이러스의 경우, 2019년 1,701종에서 2022년 2,077종으로 약 3년간 376종의 신종 바이러스가 새롭게 보고되었다(Walker 등, 2022).

식물 바이러스병에 대한 진단, 검역 및 방제의 차원에서는 신종 바이러스에 대한 정보뿐만 아니라, 국가별 또는 지역별 특정 바이러스의 발생 여부 및 기주 범위에 대한 정보를 제공하는 것도 매우 중요하다. 이러한 취지에 힘입어 국내에서도 식물 바이러스의 진단 및 동정 연구가 활발히 이루어지고 있으며, 최근 몇 년간 국내 신규 발생 바이러스 및 새로운 기주에 대한 상당히 많은 보고가 이루어졌다. 그러나 이러한 신규 바이러스 및 기주에 대한 많은 양의 정보가 다양한 학술지 논문에 개별적으로 보고되어 있어, 종합적으로 파악하기 쉽지 않은 상황이다. 따라서, 본 리뷰 논문에서는 국내외 학술지 등 다양한 문헌자료 조사를 통하여 2020년에서 2022년 사이에 국내에서 새롭게 보고된 식물바이러스 및 기주 식물에 대한 정보를 취합하고 간략하게 정리하여 관련 문헌 정보와 함께 제공하고자 한다. 이를 통해 최근 국내에 발생한 신규 식물 바이러스병의 진단, 방제 및 검역 연구에 도움이 될 것이라 기대한다.

2020-2022년 보고된 국내 신규 발생 바이러스

국내외 학술지 및 최근 발간된 한국식물병명목록 6판 등 다양한 문헌자료를 바탕으로 조사를 실시한 결과, 2020년 1월부터 2022년 12월 사이에 보고된 국내에서 새롭게 발생한 바이러스는 총 36종이었으며, 이 중 전 세계적으로 처음 보고된 신종 바이러스는 총 14종이었다(Table 1). 이때, 학술지에 보고된 경우 논문의 최종 출판일을 기준으로 선별하였으며, polymerase chain reaction 또는 reverse transcription polymerase chain reaction을 통한 단순 진단으로 보고된 바이러스는 제외하였다. 2020년도에 국내에서 보고된 신규 발생 바이러스는 총 7종이었으며, 이 중 쇠무릅(*Achyranthes bidentata*)에서 동정된 achyranthes virus A (AcVA)는 *Potyvirus*속에 속하는 신종 바이러스에 해당한다(Igori 등, 2020c). 2021년도에 국내에서 보고된 신규 발생 바이러스는 총 12종이었으며, 이 중 쑥(*Artemisia princeps*)에서 동정된 artemisia virus B (ArtVB; *Polerovirus*속), 더덕(*Codonopsis lanceolata*)에서 동정된 codonopsis torradovirus A (CoTVA; *Torradovirus*속), 물푸레나무(*Fraxinus rhynchophylla*)에서 동정된 fraxinus symptomless virus (FSMV; *Geminiviridae*

과), 도라지(*Platycodon grandifloras*)에서 동정된 platycodon closterovirus 1 (PlaCV1; *Closterovirus*속), 떡쇠채(*Scorzonera austriaca* Willd.)에서 동정된 scorzonera virus A (SCoVA; *Potyvirus*속)의 5종의 바이러스는 신종 바이러스에 해당한다(Belete 등, 2021; Igori 등, 2021a, 2021b, 2021c; Lal 등, 2021). 2022년도에 국내에서 보고된 신규 발생 바이러스는 총 17종이었으며, 이 중 천궁(*Cnidium officinale*)에서 동정된 cnidium virus 1 (CnV1; *Betanucleorhabdovirus*속), 메밀(*Fagopyrum esculentum*)에서 동정된 fagopyrum esculentum endornavirus 2 (FeEV2; *Alphaendornavirus*속), 지칭개(*Hemisteptia lyrata*)에서 동정된 hemisteptia virus A (HemVA; *Polerovirus*속), 칩(*Pueraria montana*)에서 동정된 kudzu virus D (KuVD; *Quinvirinae*아과)와 pueraria virus A (PVA; *Caulimovirus*속), 질경이(*Plantago asiatica*)에서 동정된 plantago asiatica virus A (PlaVA; *Polerovirus*속), 루드베키아(*Rudbeckia* sp.)에서 동정된 rudbeckia virus 1 (RudV1; *Cytorhabdovirus*속), 대두(*Glycine max* L. Merrill)에서 동정된 soybean geminivirus B (SGVB; *Mastrevirus*속)의 8종의 바이러스는 신종 바이러스에 해당한다(Belete 등, 2022; Choi 등, 2022b; Gudeta 등, 2022; Igori 등, 2022a, 2022b, 2022c; Kim 등, 2022b; Lee 등, 2022b).

2020-2022년 보고된 국내 발생 바이러스의 신규 기주 식물

2020년 1월부터 2022년 12월 사이에 출판된 문헌자료를 통해 확인된 국내 발생 바이러스의 신규 기주 식물은 총 47종이었다(Table 2). 주요 작물 바이러스를 중심으로 간략히 살펴보면, cucumber mosaic virus (CMV)의 새로운 기주 식물로서 참취(*Aster scaber*), 방풍나물(*Ledebouria seseloides*), 개별꽃(*Pseudostellaria heterophylla*), 백일홍(*Zinnia elegans*), 마늘(*Allium sativum* L.), 바나나(*Musa* spp.), 사위질빵(*Clematis apiifolia*), 여주(*Momordica charantia*) 등 8종이 추가 보고되었다(Bae와 Park, 2022a; Bae 등, 2021; Jo 등, 2021c; Kim 등, 2020b; Ko 등, 2020; Lee 등, 2020a; Min 등, 2020; Nam 등, 2022). Tomato spotted wilt virus (TSWV)의 새로운 기주 식물로는 땅콩(*Arachis hypogaea*), 구기자(*Lycium chinense*), 왜당귀(*Angelica acutiloba*), 곤드레(*Cirsium setidens*), 거베라(*Gerbera jamesonii*), 범부채(*Iris domestica*), 머위(*Petasites japonicus*), 테이블야자(*Chamaedorea elegans*), 스킨답서스(*Epipremnum aureum*), 옥시페탈룸(*Oxypetalum coeruleum*) 등 10종이 추가 보고되었다(Baek 등, 2022; Cho 등, 2020b; Chung 등, 2021b; Kim 등,

Table 1. Newly reported plant viruses in South Korea in 2020–2022

Reporting year	Virus	Abbrev.	Collecting host			Collection year	Collecting location	Reference
			Scientific name	English common name	Korean common name			
2020	Achyranthes virus A ^a	AcVA	<i>Achyranthes bidentata</i>	Ox knee	쇠무릅	2016	Daejeon	Igori et al. (2020c)
2020	Bean pod mottle virus	BPMV	<i>Phaseolus vulgaris</i>	Common bean	강낭콩	2020	Hoengseong	Jo et al. (2020a)
2020	Malus domestica virus A	MdoVA	<i>Malus domestica</i>	Apple tree	사과나무	2018	Various locations	Igori et al. (2020b)
2020	Petunia vein clearing virus	PVCV	<i>Petunia hybrida</i>	Petunia	페튜니아	2019	Seoul	Kwon et al. (2020)
2020	Pyrus pyrifolia cryptic virus	PpCV	<i>Pyrus pyrifolia</i>	Pear tree	배나무	2017	Naju	Cho et al. (2020a)
2020	Sweet potato virus E	SPVE	<i>Ipomoea batatas</i>	Sweet potato	고구마	2016–2017	Icheon, Goesan	Jo et al. (2020b)
2020	Sweet potato virus F	SPVF	<i>Ipomoea batatas</i>	Sweet potato	고구마	2016–2017	Various locations	Jo et al. (2020b)
2021	Artemisia virus B ^a	ArtVB	<i>Artemisia princeps</i>	Mugwort	쑥	2016	Buyeo	Igori et al. (2021c)
2021	Cherry virus F	CVF	<i>Prunus mume</i>	Japanese plum	매실	2014	Hoengseong	Jo et al. (2021a)
2021	Codonopsis torrado-virus A ^a	CoTVA	<i>Codonopsis lanceolata</i>	Deodeok	더덕	2019	Yanggu	Belete et al. (2021)
2021	Colombian datura virus	CDV	<i>Brugmansia suaveolens</i>	White angel trumpet	천사의 나팔	2018	Seongnam	Kwak et al. (2021b)
2021	Cucurbit Chlorotic yellows virus	CCYV	<i>Cucumis melo</i>	Muskmelon	멜론	2018	Gyeong-sang-do	Cho et al. (2021a)
2021	Cucurbit Chlorotic yellows virus	CCYV	<i>Cucumis sativus</i> L.	Cucumber	오이	2018	Chungbuk-do	Kwak et al. (2021a)
2021	Fraxinus symptomless virus ^a	FSMV	<i>Fraxinus rhynchophylla</i>	Chinese ash	물푸레나무	2019	Various locations	Lal et al. (2021)
2021	Nerine Latent Virus	NeLV	<i>Hippeastrum hybridum</i>	Amaryllis	아마릴리스	NA	Seoul	Heo and Choi (2021)
2021	Passiflora latent virus	PLV	<i>Diospyros kaki</i> Thunb.	Persimmon	감나무	2019	Gyeong-sang-do	Cho et al. (2021b)
2021	Platycodon closterovirus 1 ^a	PlaCV1	<i>Platycodon grandiflorus</i>	Balloon flower	도라지	2016–2017	Gochang	Igori et al. (2021b)
2021	Raphanus sativus cryptic virus 2	RsCV-2	<i>Brassica rapa</i> subsp. <i>pekinensis</i>	Kimchi cabbage	배추	NA	Seeds from Italy	Jun et al. (2021)
2021	Scorzonera virus A ^a	SCoVA	<i>Scorzonera austriaca</i> Willd.	<i>Scorzonera austriaca</i> Willd.	먹쇠채	2020	Haenam	Igori et al. (2021a)
2022	Australian grapevine viroid	AGVd	<i>Vitis vinifera</i>	Grapevine	포도나무	2020	Yeongwol, Gangneung	Heo et al. (2022)
2022	Citrus viroid VI	CVd-VI	<i>Diospyros kaki</i> Thunb.	Persimmon	감나무	2018	Cheongdo, Yeongam	Kwon et al. (2022)

(Continued)

Table 1. Continued

Reporting year	Virus	Abbrev.	Collecting host			Collection year	Collecting location	Reference
			Scientific name	English common name	Korean common name			
2022	Cnidium virus 1 ^a	CnV1	<i>Cnidium officinale</i>	Cnidium officinale	천궁	2018	Seoul	Belete et al. (2022)
2022	Cotton leafroll dwarf virus	CLRDV	<i>Hibiscus syriacus</i>	Roselle	무궁화	2019	Various locations	Igori et al. (2022d)
2022	Fagopyrum esculentum endornavirus 2 ^a	FeEV2	<i>Fagopyrum esculentum</i>	Buckwheat	메밀	2019	Bonghwa	Kim et al. (2022b)
2022	Grapevine virus L	GVL	<i>Vitis vinifera</i>	Grapevine	포도나무	2020	Gangneung	Kim and Heo (2022)
2022	Grapevine yellow speckle viroid 2	GYSVd-2	<i>Vitis vinifera</i>	Grapevine	포도나무	2020	Gangneung	Jeong et al. (2022)
2022	Hemisteptia virus A ^a	HemVA	<i>Hemisteptia lyrata</i>	Lyre-shape hemistepta	지칭개	2016	Daejeon	Igori et al. (2022b)
2022	Kudzu virus D ^a	KuVD	<i>Pueraria montana</i>	Kudzu	참	2019	Bonghwa	Igori et al. (2022c)
2022	Ligustrum virus A	LVA	<i>Syringa oblata</i> var. <i>dilatata</i> (Nakai) Rehder	Korean early lilac	수수꽃다리	2020	Seoul	Oh et al. (2022)
2022	Melon aphid-borne yellows virus	MAYBV	<i>Citrullus lanatus</i>	Watermelon	수박	2020	Gwacheon	Byun et al. (2022)
2022	Plantago asiatica virus A ^a	PlaVA	<i>Plantago asiatica</i>	Plantain	질경이	2019	Various locations	Igori et al. (2022a)
2022	Pueraria virus A ^a	PVA	<i>Pueraria montana</i>	Kudzu	참	2018	Bonghwa	Gudeta et al. (2022)
2022	Ranunculus mild mosaic virus	RanMMV	<i>Ranunculus asiaticus</i> L.	Persian buttercup	라능쿨루스	2021	Jangheung	Kwak et al. (2022)
2022	Rudbeckia virus 1 ^a	RudV1	<i>Rudbeckia</i> sp.	Coneflowers	루드베키아	NA	Seeds from China	Lee et al. (2022b)
2022	Saguaro cactus virus	SgCV	<i>Gymnocalycium mihanovichii</i>	Moon cactus	비모란선인장	2017	Gyeonggi-do	Lim et al. (2022)
2022	Soybean geminivirus B ^a	SGVB	<i>Glycine max</i> L. Merrill	Soybean	대두	2016	Cheongju	Choi et al. (2022b)

NA, not available.

^aNovel viruses reported for the first time in the world.

2021d; Kwak 등, 2020b, 2021c, 2021d; Lee 등, 2022e, 2022f; Mun 등, 2021). Turnip mosaic virus (TuMV)의 새로운 기주 식물로는 인삼(*Panax ginseng*), 들깨(*Perilla frutescens*), 유채(*Brassica napus*)가, zucchini yellow mosaic virus (ZYMV)의 새로운 기주 식물로는 도라지(*Platycodon grandiflorus*)와 여주(*Momordica charantia*)가 추가로 보고되었다(Kim 등, 2021a; Lee

등, 2020b, 2022d; Park 등, 2020b; Song 등, 2022). 국내 고추(*Capsicum annuum* L.)에서 신규로 발생하는 바이러스로 milk vetch dwarf virus (MDV)와 tomato mosaic virus (ToMV)가 추가되었으며, 천궁에서는 apple stem grooving virus (ASGV)와 cycas necrotic stunt virus (CNSV)가 새롭게 추가되었다(Cho 등, 2021d; Choi 등, 2022a; Chung 등, 2022; Igori 등, 2020a).

Table 2. Newly reported host plants of existing viruses in South Korea in 2020–2022

Reporting year	Virus	Abbrev.	Collecting host			Collection year	Collecting location	Reference
			Scientific name	English common name	Korean common name			
2020	Barley yellow dwarf virus	BYDV	<i>Avena sativa</i> L.	Oat	귀리	2020	Various locations	Kim et al. (2020a)
2020	Cucumber mosaic virus	CMV	<i>Aster scaber</i>	Edible aster	참취	2019	Gwangju	Ko et al. (2020)
2020	Cucumber mosaic virus	CMV	<i>Ledebouriella seseloides</i>	Divaricate ledebouriella	방풍나물	2019	Samchuck	Kim et al. (2020b)
2020	Cucumber mosaic virus	CMV	<i>Pseudostellaria heterophylla</i>	False starwort	개별꽃	2019	Bonghwa	Lee et al. (2020a)
2020	Cucumber mosaic virus	CMV	<i>Zinnia elegans</i>	Common zinnia	백일홍	2020	Chuncheon	Min et al. (2020)
2020	Cycas necrotic stunt virus	CNSV	<i>Cnidium officinale</i>	Cnidium officinale	천궁	2018	Seoul	Igori et al. (2020a)
2020	Malva vein clearing virus	MVCV	<i>Malva verticillata</i>	Chinese mallow	아욱	2017	Chungnam-do	Kwak et al. (2020a)
2020	Tomato spotted wilt virus	TSWV	<i>Arachis hypogaea</i>	Peanut	땅콩	2017–2018	Andong, Gochang	Cho et al. (2020b)
2020	Tomato spotted wilt virus	TSWV	<i>Lycium chinense</i>	Chinese matrimony vine	구기자	2018	Cheongyang	Kwak et al. (2020b)
2020	Turnip mosaic virus	TuMV	<i>Panax ginseng</i>	Asian ginseng	인삼	2018	Yeoju, Hwaseong	Lee et al. (2020b)
2020	Turnip mosaic virus	TuMV	<i>Perilla frutescens</i>	Korean perilla	들깨	2016	Chuncheon	Park et al. (2020b)
2020	Watermelon mosaic virus	WMV	<i>Sicyos angulatus</i>	Star cucumber	가시박	2016	Gapyeong	Park et al. (2020a)
2021	Apple green crinkle associated virus	AGCaV	<i>Pyrus pyrifolia</i>	Pear tree	배나무	2017–2019	Various locations	Kim et al. (2021b)
2021	Bean common mosaic virus	BCMV	<i>Phaseolus vulgaris</i>	Common bean	강낭콩	2020	Hoengseong	Jo et al. (2021b)
2021	Beet western yellows virus	BWYV	<i>Scrophularia buergeriana</i> Miq.	Figwort	현삼	2017–2020	Andong	Jeon et al. (2021)
2021	Cucumber green mottle mosaic virus	CGMMV	<i>Perilla frutescens</i>	Korean perilla	들깨	2017	Yeongcheon	Cho et al. (2021c)
2021	Cucumber mosaic virus	CMV	<i>Allium sativum</i> L.	Garlic	마늘	2020	Hoengseong	Jo et al. (2021c)
2021	Cucumber mosaic virus	CMV	<i>Musa</i> spp.	Banana	바나나	2020	Seogwipo	Bae et al. (2021)
2021	Impatiens necrotic spot virus	INSV	<i>Plantago asiatica</i>	Plantain	질경이	2020	Eumseong	Chung et al. (2021a)
2021	Tobacco mosaic virus	TMV	<i>Hosta longipes</i>	Plantain lily	비비추	2019	Naju	Kim et al. (2021c)
2021	Tomato aspermy virus	TAV	<i>Chrysanthemum zawadskii</i> var. <i>latilobum</i>	Korean chrysanthemum	구절초	2017	Yesan	Kwak et al. (2021e)

(Continued)

Table 2. Continued

Reporting year	Virus	Abbrev.	Collecting host			Collection year	Collecting location	Reference
			Scientific name	English common name	Korean common name			
2021	Tomato mosaic virus	ToMV	<i>Capsicum annuum</i> L.	Pepper	고추	2020	Wanju	Cho et al. (2021d)
2021	Tomato spotted wilt virus	TSWV	<i>Angelica acutiloba</i>	Japanese angelica	왜당귀	2019	Nonsan	Kwak et al. (2021d)
2021	Tomato spotted wilt virus	TSWV	<i>Cirsium setidens</i>	Korean thistle	곤드레	2020	Samchuck	Mun et al. (2021)
2021	Tomato spotted wilt virus	TSWV	<i>Gerbera jamesonii</i>	Barborton daisy	거베라	2019	Gumi	Kim et al. (2021d)
2021	Tomato spotted wilt virus	TSWV	<i>Iris domestica</i>	Leopard lily	범부채	2020	Wanju	Chung et al. (2021b)
2021	Tomato spotted wilt virus	TSWV	<i>Petasites japonicus</i>	Butterbur	머위	2018–2019	Nonsan	Kwak et al. (2021c)
2021	Zucchini yellow mosaic virus	ZYMV	<i>Platycodon grandiflorus</i>	Balloon flower	도라지	2020	Samchuck	Kim et al. (2021a)
2022	Apple stem grooving virus	ASGV	<i>Cnidium officinale</i>	Cnidium officinale	천궁	2019	Bonghwa, Youngyang	Chung et al. (2022)
2022	Cactus virus X	CVX	<i>Musa</i> spp.	Banana	바나나	2020	Jeju Island	Bae et al. (2022)
2022	Carnation Italian ringspot virus	CIRV	<i>Erigeron annuus</i>	Daisy fleabane	개망초	2019	Bonghwa, Mokpo	Lee et al. (2022a)
2022	Cereal yellow dwarf virus	CYDV	<i>Avena sativa</i> L.	Oat	귀리	2020	Suwon, Jeongeup, Gangjin	Kim et al. (2022a)
2022	Clover Yellow Vein Virus	CIYV	<i>Dendrobium</i> sp.	Dendrobium	덴드로비움	2019	Daegu	Yoon et al. (2022)
2022	Cucumber mosaic virus	CMV	<i>Clematis apiifolia</i>	Clematis	사위질빵	2019	Chuncheon	Nam et al. (2022)
2022	Cucumber mosaic virus	CMV	<i>Momordica charantia</i>	Bitter melon	여주	2021	Gangjin	Bae and Park (2022a)
2022	Lily symptomless virus	LSV	<i>Lupinus polyphyllus</i>	Garden lupine	루비너스	2021	Suncheon	Kim et al. (2022d)
2022	Milk vetch dwarf virus	MDV	<i>Capsicum annuum</i> L.	Pepper	고추	2019	Various locations	Choi et al. (2022a)
2022	Pepper mild mottle virus	PMMoV	<i>Dracaena sanderiana</i>	Lucky bamboo	개운죽	2022	Gwangju	Kim et al. (2022c)
2022	Pitaya virus X	PiVX	<i>Selenicereus undatus</i>	Dragon fruit	용과	2020	Various locations	Bae and Park (2022b)
2022	Plantago asiatica mosaic virus	PIAMV	<i>Pelargonium inquinans</i>	Geranium	제라늄	2021	Suncheon	Lee et al. (2022c)
2022	Rice black-streaked dwarf virus	RBSDV	<i>Avena sativa</i> L.	Oat	귀리	2020	Yeoncheon, Pocheon	Kim et al. (2022a)
2022	Tomato spotted wilt virus	TSWV	<i>Chamaedorea elegans</i>	Neanthe bella palm	테이블야자	2021	Gwangju	Lee et al. (2022e)

(Continued)

Table 2. Continued

Reporting year	Virus	Abbrev.	Collecting host			Collection year	Collecting location	Reference
			Scientific name	English common name	Korean common name			
2022	Tomato spotted wilt virus	TSWV	<i>Epipremnum aureum</i>	Money plant	스킨답서스	2021	Gwangju	Lee et al. (2022f)
2022	Tomato spotted wilt virus	TSWV	<i>Oxypetalum coeruleum</i>	Tweedia	옥시페탈룸	2021	Gimje	Baek et al. (2022)
2022	Turnip mosaic virus	TuMV	<i>Brassica napus</i>	Canola	유채	2020	Gimcheon	Song et al. (2022)
2022	Zucchini yellow mosaic virus	ZYMV	<i>Momordica charantia</i>	Bitter melon	여주	2021	Samchcuk	Lee et al. (2022d)
2022	Zygocactus virus X	ZyVX	<i>Selenicereus undatus</i>	Dragon fruit	용과	2020	Various locations	Bae and Park (2022b)

요 약

첨단 바이러스 진단 기술의 발달에 힘입어 최근 전 세계적으로 다양한 생물 시료로부터 신종 바이러스를 비롯한 바이러스 동정 정보가 폭발적으로 보고되고 있다. 식물바이러스의 경우, 최근 3년간 약 376여 종의 신종 바이러스가 새롭게 보고되기도 하였다. 식물 바이러스병에 대한 국가별 또는 지역별 발생 정보 및 기주 범위에 대한 정보는 바이러스병의 진단, 검역 및 방제의 차원에서 매우 중요하다. 최근 국내에서도 식물 바이러스의 진단 및 동정에 대한 활발한 연구를 바탕으로 국내 신규 발생 바이러스 및 새로운 기주에 대한 많은 보고가 이루어졌다. 본 리뷰 논문에서는 2020년에서 2022년 사이에 국내에서 새롭게 보고된 식물바이러스 및 기주 식물에 대한 정보를 취합하여 제공함으로써, 국내 식물 바이러스병의 진단, 방제 및 검역 연구에 도움이 되고자 한다.

Conflicts of Interest

No potential conflict of interest relevant to this article was reported.

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