

**CASSAVA DISEASE LIST**

Name	Abbreviation	Classification	Symptoms	Diagnostic method	Bioassay-host range	Distribution	Mode of transmission
<b>viruses</b>							
<b>African cassava mosaic virus</b> <sup>1,2,6</sup>	ACMV	Order: <i>Unassigned</i> Family: <i>Geminiviridae</i> Genus: <i>Begomovirus</i>	Y	PCR	<i>Manihot esculenta</i> , <i>Nicotiana benthamiana</i> , <i>Nicotiana clevelandii</i> , <i>Datura stramonium</i>	Throughout Africa and adjacent islands	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but not seed
<b>East African cassava mosaic virus</b> <sup>3,4,5,6</sup>	EACMV	Order: <i>Unassigned</i> Family: <i>Geminiviridae</i> Genus: <i>Begomovirus</i>	Y	PCR		Kenya, Tanzania, Malawi, Zimbabwe, Madagascar, Nigeria, Cameroon, Ghana, Guinea, Togo	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but not seed
<b>East African cassava mosaic Cameroon virus</b> <sup>6</sup>	EACMCV	Order: <i>Unassigned</i> Family: <i>Geminiviridae</i> Genus: <i>Begomovirus</i>	Y	PCR		Cameroon	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but not seed
<b>East African cassava mosaic Kenya virus</b> <sup>5</sup>	EACMKV	Order: <i>Unassigned</i> Family: <i>Geminiviridae</i> Genus: <i>Begomovirus</i>	Y	PCR		Kenya	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but not seed
<b>East African cassava mosaic Malawi virus</b> <sup>5</sup>	EACMMV	Order: <i>Unassigned</i> Family: <i>Geminiviridae</i> Genus: <i>Begomovirus</i>	Y	PCR		Malawi	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but not seed
<b>East African cassava mosaic Zanzibar virus</b> <sup>5</sup>	EACMZV	Order: <i>Unassigned</i> Family: <i>Geminiviridae</i> Genus: <i>Begomovirus</i>	Y	PCR		Tanzania	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but not seed
<b>East African cassava mosaic virus-UG</b> <sup>7,8,9</sup>	EACMZV	Order: <i>Unassigned</i> Family: <i>Geminiviridae</i> Genus: <i>Begomovirus</i>	Y	PCR		Kenya, Congo Republic, Democratic Republic of Congo, Rwanda, Sudan, Tanzania, Uganda	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but not seed
<b>Indian cassava mosaic virus</b> <sup>6,10,11,15</sup>	ICMV	Order: <i>Unassigned</i> Family: <i>Geminiviridae</i> Genus: <i>Begomovirus</i>	Y	PCR	<i>Datura stramonium</i> , <i>Nicandra physalodes</i> , <i>Nicotiana benthamiana</i> , <i>N. debneyi</i> , <i>N. glutinosa</i> , <i>N. occidentalis</i> , <i>N. rustica</i> , <i>N. sylvestris</i> , <i>N. tabacum</i> (cv. <i>Jaysree</i> ) and <i>Petunia x hybrida</i>	India, Togo <sup>28</sup> ?	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but not seed
<b>South African cassava mosaic virus</b> <sup>6,12,13,14</sup>	SACMV	Order: <i>Unassigned</i> Family: <i>Geminiviridae</i> Genus: <i>Begomovirus</i>	Y	PCR		S. Africa, Madagascar, Zimbabwe	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but not seed
<b>Sri Lankan cassava mosaic virus</b> <sup>6,15</sup>	SLCMV	Order: <i>Unassigned</i> Family: <i>Geminiviridae</i> Genus: <i>Begomovirus</i>	Y	PCR		Sri Lanka	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but not seed
<b>Cassava brown streak virus</b> <sup>2,16,17,18</sup>	CBSV	Order: <i>Unassigned</i> Family: <i>Potyviridae</i> Genus: <i>Ipomovirus</i>	Y?	PCR	<i>Nicotiana benthamiana</i> , <i>N. debneyi</i>	Democratic Republic of Congo, Malawi, Mozambique, Kenya, Tanzania, Uganda, Zimbabwe, Zambia	Whitefly ( <i>B. tabaci</i> ), infected cuttings, mechanical, grafting but no data on seed transmission
<b>Cassava common mosaic virus</b> <sup>2,19</sup>	CsCMV	Order: <i>Timovirales</i> Family: <i>Alphaflexiviridae</i> Genus: <i>Potexvirus</i>	Y		<i>Gomphrena globosa</i> , <i>Chenopodium amaranticolor</i> , <i>C. murale</i> , <i>C. quinoa</i> , <i>Gossypium hirsutum</i> , <i>Manihot esculenta</i> , <i>Ricinus communis</i> , <i>Cassia occidentalis</i> , <i>Datura</i>	Brazil, Colombia, Mexico, Peru, Taiwan, and the USA (Florida), Cote d'Ivoire (possibly).	Mechanical, grafting, infected cuttings but not seed. No known vector
<b>Cassava green mottle virus</b> <sup>20</sup>	CGMV	Order: <i>Picomavirales</i> Family: <i>Secoviridae</i> Sub-family: <i>Comovirinae</i> Genus: <i>Nepovirus</i>	N?		<i>C. quinoa</i> , <i>N. clevelandii</i> , <i>P. vulgaris</i> , <i>C. sativus</i> , <i>R. communis</i> , <i>I. batatas</i> . <i>M. esculenta</i> , <i>Solanum tuberosum</i> ,	Solomon Islands	Mechanical. Possible transmission by nematodes
<b>Cassava vein mosaic virus</b> <sup>2</sup>	CVMV	Order: <i>Unassigned</i> Family: <i>Caulimoviridae</i> Genus: <i>Cavemovirus</i>		PCR?	<i>Manihot esculenta</i>	Brazil	Mechanical, grafting but not seed or pollen
<b>Cassava American latent virus</b> <sup>21</sup>	CALV	Order: <i>Picomavirales</i> Family: <i>Secoviridae</i> Sub-family: <i>Comovirinae</i> Genus: <i>Nepovirus</i>	N			Brazil, Guyana	Mechanical. No data on vector or seed transmission
<b>Cassava Columbian symptomless virus</b> <sup>22</sup>	CCSV	<i>Flexiviridae</i> ; <i>Potexvirus</i>	N		<i>Chenopodium</i> spp., <i>Nicotiana benthamiana</i>	Columbia	Mechanical. No data on vector or seed transmission

<b>Cassava Ivoirian bacilliform virus</b> <sup>23</sup>	CIBV	Unclassified	N	<i>Chenopodium murale</i> (L), <i>C. amaranticolor</i> (W), <i>C. quinoa</i> (W).	<i>Chenopodium amaranticolor</i> , <i>Chenopodium murale</i> , <i>C. quinoa</i> , <i>Gomphrena globosa</i> , <i>Tetragonia tetragonioides</i> , <i>Nicotiana benthamiana</i> , <i>Nicotiana clelandii</i> , <i>N. rustica</i> , <i>N. tabacum</i> cv. Samsun, <i>Phaseolus vulgaris</i> , <i>Senecio cruentus</i>	Cote d'Ivoire	Mechanical. No data on vector or seed transmission
<b>Cassava virus X</b> <sup>24</sup>	CsVX	Order: <i>Timovirales</i> Family: <i>Alphaflexiviridae</i> Genus: <i>Potexvirus</i>	N		<i>Nicotiana benthamiana</i>	Columbia, Venezuela	Mechanical. No data on vector or seed transmission
<b>Cassava virus C</b> <sup>25,26</sup>	CsVC	Order: <i>Unassigned</i> Family: <i>Unassigned</i> Genus: <i>Ourniavirus</i>	N?		?	Iran	Mechanical. No data on vector or seed transmission
<b>Cassava Frogskin virus</b> <sup>2</sup>	FSV	<i>Reoviridae</i> ?	Y	PCR	<i>Secundina</i> spp.	Brazil, Columbia, Costa Rica, Panama, Peru, Venezuela	Not transmitted mechanically or by seed. Suspected transmission by whitefly <i>B. tuberculata</i>
<b>Cassava Congo sequivir virus</b>		<i>Sequiviridae</i> ; <i>Sequivirus</i>					
<b>kumi virus A</b> <sup>25,26</sup>					No data	Uganda	Mechanical. No data on vector or seed transmission
<b>Kumi virus B</b> <sup>25,26</sup>						Uganda	Mechanical. No data on vector or seed transmission
<b>Cassava symptomless Rhabdovirus</b> <sup>27</sup>					<i>Nicotiana benthamiana</i>	Brazil	Mode of transmission not known
<b>Cassava Caribbean mosaic (?) potexvirus</b> <sup>27</sup>					<i>Chenopodium quinoa</i> , <i>Nicotiana benthamiana</i>		Mode of transmission not known
<b>Bacteria</b>							
<b><i>Xanthomonas campestris</i> pv. <i>manihotis</i></b>			Y				
<b><i>Xanthomonas campestris</i> pv. <i>cassavae</i></b>			Y				
<b><i>Agrobacterium tumefaciens</i> Biovar 1</b>			Y				
<b>MLOs</b>							
<b>Cassava antholysis</b>		MLO	Y				
<b>Cassava witches' broom</b>		<i>Candidatus Phytoplasma asteri</i> Lee et al. 2004	Y				

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