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## FIELD SYMPTOM-RESPONSE OF SORGHUM HYBRIDS INFECTED BY MAIZE DWARF MOSAIC VIRUS, SUGARCANE MOSAIC VIRUS STRAIN MDMV-B, AND JOHNSONGRASS MOSAIC VIRUS

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## Procedures

Studies were conducted at the Kansas State University Agricultural Research Center-Hays to determine symptom response of sorghum hybrids infected by MDMV, SCMV-MDMV-B, and JGMV under 2 years of field testing. Sorghum seed was planted in 6.1 m rows. When at the two-leaf to three-leaf stage, plants in half of each row were inoculated, and plants in the remaining half of the row served as healthy controls. Plants were inoculated with a Devilbiss EGA-502 spray gun attached to a 3.5 L (1 gal) inoculum reservoir. Compressor line pressure was maintained at 7.0 kq/sq cm (100 lbs/sq in). Symptom notes were recorded at biweekly intervals during the growing season beginning 2 weeks after inoculation. Planting was delayed until late June to assure cool temperatures for induction of red-leaf necrosis.

## Results

Field symptoms of hybrids are shown in Table 1. Symptoms of infection are given as M = mosaic reactions with no necrosis; NSp = necrotic spots (least severe necrotic reaction); NSt = necrotic streaks often coalescing to form large, irregularly shaped, necrotic areas on the leaf; RL = entire leaf necrotic (most severe necrotic reaction); and NT = not tested. Data indicate that sorghum hybrids having the M reaction suffer less yield loss than plants developing necrosis (RL types).

**Table 1. Disease reaction of field-grown sorghum following mechanical inoculation with maize dwarf mosaic virus (MDMV), sugarcane mosaic virus strain MDMV-B (SCMV-MDMV-B), and johnsongrass mosaic virus (JGMV).**

Brand	Hybrid	MDMV	SCMV-MDMV-B	JGMV
Agripro	AP 2440	M	M	M
Agripro	AP 2660	NSt	RL	M
Agripro	AP 9135	NSt	NT	M
Agripro	AP 9210	NSt	NT	M
Agripro	AP 9670	RL	NSt	M
Agripro	AP 9690	NSt	NSt	M
Agripro	AP 9850	M	NT	M
Asgrow	A 425	M	M	NSt
Asgrow	A 504	NSt	RL	M
Asgrow	A 531	NSt	RL	M
Asgrow	A 571	M	M	M
Asgrow	A 570	M	NSt	M
Asgrow	Seneca	M	M	M
Cargill	575	RL	NSt	M
Cargill	607E	NSt	NSt	M
Cargill	611Y	M	NT	NSt
Cargill	627	NSt	RL	M
Cargill	647	M	M	M
Cargill	730	NSt	NS	M
Cargill	737	NSt	M	M
Cargill	775Y	RL	NSt	M
Cargill	837	NSt	NSt	M
Casterline	SR315E	NSt	NSt	M
Casterline	SR317EW	NT	NT	M
Casterline	SR319E	NSt	NSt	M
Casterline	SR324E	NSt	NSt	M
Century II	GB5543-E	M	M	M
Century II	GB7042E	M	M	M
Century II	GB8041W	RL	M	NSt
Century II	GB9140-E	M	M	M
Ciba	1486	NSt	RL	NP
Ciba	1606	NSt	NS	M
Ciba	55492	NSt	NSt	M
Dekalb	DK-35	RL	NSt	M
Dekalb	DK-44	NSt	NSt	NSt
Dekalb	DK-47	M	M	M
Dekalb	DK-38Y	NSt	NSt	NSt
Dekalb	DK-39	NSt	NSt	NSt
Dekalb	DK-40Y	NSt	NSt	NSt
Dekalb	DK-NSt 1Y	NSt	NSt	NSt
Dekalb	DK-45	NSt	NSt	NSt
Dekalb	DK-48	NSt	NSt	M
Dekalb	DK-51	NSt	NSt	M
Dekalb	DK-54	M	M	M
Dekalb	DK-55	NSP	NT	M
Dekalb	DK-56	M	M	NSt
Dekalb	DK-58	NSt	NSt	NSt
Dekalb	M-61	NSt	RL	M
Delange	DA 117	M	M	M
Delange	DS 12C	RL	NSt	M
Delange	DS 11	NSt	RL	M

**Table 1. (continued)**

Brand	Hybrid	SCMV-		
		MDMV	MDMV-B	JGMV
Delange	DS 51	NSt	NSt	M
Delange	DSA 115C	NSt	NT	M
Deltapine	1482	NSt	NSt	M
Deltapine	1490Y	NSt	NSt	M
Deltapine	1505Y	RL	NSt	M
Deltapine	1506	NSt	RL	M
Fontanelle	4425	NSt	RL	M
Fontanelle	5570	M	M	M
Fontanelle	5588	M	M	M
Fontanelle	EXP6300	M	NSt	M
Golden Harvest	H-403	NSt	RL	M
Golden Harvest	H-509	M	M	M
Golden World	GW 1131	NSt	NSt	M
Golden World	GW 5946	M	M	M
Golden World	5872	NSP	NT	NT
Golden World	5960	NSt	NT	M
GRI	23977	NSt	NSt	M
GRI	47967	NSP	NT	M
GRI	54977	RL	RL	M
GRI	57977	NSt	RL	NSt
Hoegemeyer	6650	NSt	NSt	M
Hoegemeyer	671	NSt	NSt	M
Hoegemeyer	6710	NSt	NSt	M
Hoegemeyer	6874	M	NT	M
Hoegemeyer	6878	NSt	RL	M
Hoegemeyer	688	NSt	RL	M
ICI	5514Y	NSt	RL	M
ICI	5536	NSP	M	M
ICI	5631Y	RL	NSt	M
Kaystar	KS 502	M	M	M
Kaystar	KS 520C	M	M	NSt
Kaystar	KS 525	RL	NSt	M
Kaystar	KS 528	NSt	RL	M
Kaystar	KS 540Y	NSt	NSt	NSt
Keltgen	KG 636	M	M	M
Keltgen	KG 640Y	NSt	NSt	NSt
Keltgen	KG 675	M	M	M
Keltgen	KG 698cr	RL	NSt	M
Keltgen	KG 706	NSt	NT	M
MSG	G256	NSt	RL	M
MSG	G530	NSt	RL	M
MSG	G580	NSt	NSt	M
Mycogen	3838	NSt	NT	M
Mycogen	444E	M	NT	M
Mycogen	466W	RL	NT	M
Mycogen	Oro Amigo	M	NT	M
Mycogen	T-E Hardy	NSt	NT	M
Mycogen	T-E Rio	M	NT	M
Mycogen	T-E Y75	NSt	M	M
NC+	5B74E	M	M	M
NC+	6B50	NSt	NSt	M
NC+	6B67	NSt	NSt	M
NC+	6R55E	NSt	M	M
NC+	6Y831	NSt	RL	M
NC+	7R37E	NSt	NSt	M
NC+	7R83	NSt	NSt	M

**Table 1. (continued)**

Brand	Hybrid	MDMV	SCMV-	
			MDMV-B	JGMV
NC+	8B15	NSt	NSt	M
NC+	363	RL	NSt	NSt
Northrup King	KS 310	NSt	NSt	M
Northrup King	KS 585	NSt	RL	M
Northrup King	KS 711Y	NSt	NS	M
Northrup King	KS 555Y	RL	NSt	NSt
Northrup King	KS 560Y	M	NSt	M
Northrup King	KS 710	RL	RL	M
Northrup King	KS 714Y	RL	NSt	NSt
Northrup King	KS 735	NSt	RL	M
Ohlde	134	NSt	NSt	M
Ohlde	136	NSt	RL	M
Ohlde	214	RL	NSt	M
Ohlde	215	RL	RL	M
Ohlde	222C	M	RL	M
Ohlde	240W	NSt	RL	M
Ohlde	246Y	NSt	RL	M
Ohlde	350	NSt	RL	M
Patriot	8530Y	RL	NSt	M
Patriot	8580	NSt	RL	M
Patriot	8608Y	NSt	NSt	NSt
Patriot	8638Y	M	M	M
Pioneer	8118	NSt	RL	NSt
Pioneer	8212Y	RL	NSt	M
Pioneer	8282	NSt	NSt	M
Pioneer	8310	NSt	NSt	M
Pioneer	8414	NSP	M	M
Pioneer	8500	RL	NSt	M
Pioneer	8505	M	NSt	M
Pioneer	8522Y	M	NSt	NSt
Pioneer	8699	M	M	M
Pioneer	8771	M	M	M
Triumph	TR 459	M	M	M
Triumph	TR 474	NSt	NSt	NSt
Triumph	TR 481	M	M	M
Triumph	TR 65-G	M	M	M
Triumph	TR 82-G	M	M	M
Wilson	515w	RL	NSt	NSt
Wilson	535Y	NSt	RL	M
Wilson	568E	M	M	M
Wilson	E9190W	M	M	M