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2012

## Varietal Release History (2006-2012) of INTSORMIL-Supported NARS Breeding Programs

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## VARIETAL RELEASE HISTORY (2006-2012) OF INTSORMIL SUPPORTED NARS BREEDING PROGRAMS

Year	Crop (Sorghum or Pearl Millet)	Country	Name of Variety Released	On-farm Yield of New Variety	Yield of Local Check Variety	Amt. of Seed Produced (Breeder, Basic/Foundation, Certified)	Qualities other than Yield (Drought Tol./Forage Quality/Food Type, etc.)	Comments
2000- 2006	Pearl millet	Mozambique	Kuphanjala1	600-1200 kg/ha	200 kg/ha	50 kg breeder seed, 500 kg foundation seed	Drought tolerance good for forage quality, and Stay green	Bird attack when planted early November
	Pearl millet	Mozambique	Kuphanjala2	1000 kg/ha	400 kg/ha	50 kg breeder seed, 500 kg foundation seed	Drought tolerance good for forage quality, and Stay green	Bird attack when planted early November
	Pearl millet	Mozambique	Changara	1200 kg/ha	300 kg/ha	50 kg breeder seed, 500 kg foundation seed	Drought tolerance good for forage quality, and Stay green	Bird attack when planted early November
	Sorghum	Mozambique	Macia	3,0 – 5,0 ton/ha	400 kg/ha	1500 kg foundation seed	Drought tolerance good for forage quality, and Stay	Bird attack when planted early November, suitable for low

							green	land and semi- arid areas of South and South of Tete Province
	Sorghum	Mozambique	Chokwe	2,0 – 4,0 ton/ha	400 kg/ha	1000 kg foundation seed	Drought tolerance good for forage quality, and Stay green, moderate susceptible to grain mold in areas with more than 4 months of rainfall season	Bird attack when planted early November, suitable for low land and semiarid areas of South and South of Tete Province
2006	Sorgo	El Salvador	85 SCP 805 and ES-790	Photosensitive varieties identified as more efficient use of nitrogen in the system corn-sorghum association. With fertilizer produced 3.5 MT / ha without fertilizer 2.5 ton / ha, 18%	2.8 and 2.0 mt / ha with and without fertilizer.	The artisanal seed is produced by the same farmer each year. Currently, some 20,000 small farmers planted about 25,000 ha in Central América.	Allow harvest maize and sorghum in the same area simultaneously without competition between them.	These varieties are used by small farmers in an area of 35,000 ha in the partnership system cornsorghum.

				local.				
	Sorgo	El Salvador	CENTA SS-44	35 mt / ha / cut green forage forage cut	25tm/ha/ of green corage for cutting.	35 mt / year of certified seed	Green fodder cutting 18% of total protein and disease tolerant.	21% increase in milk production.
	Sorghum	Mali	GRINKAN	3000	1500	Breeders seed Seed foundation is certified	Human food and Forage quality	Very white flour allows various industrial uses such as cakes, biscuit
	Sorghum/Millet	Niger	90-SN-7					
	Pearl Millet	Zambia	Mulatiwa	600	520	200	Medium-tall, early, disease- tolerant, grey grain	Adapted in all millet areas. 2.9 t/ha yield potential.
	Pearl Millet	Zambia	Liseli	750	520	250	Tall, medium- early, long panicles, disease-tolerant, grey grain	Adapted to Regions I & II. 2.7 t/ha yield potential.
2007	Sorghum	Mozambique	Adaptation and yield stability evaluation	3,0- 5,0 ton/ha On-station 1,5 2,0 ton/ha	1,0-1,5 ton/ha	Breeder seed maintenances		Under National Plant Trials with rain feed conditions
	Sorghum	Mali	NIATHITIAMA	2500	1000	Seed foundation is certified	poultry feed and human food	Very white flour allows various industrial uses such as cakes, biscuit
	Sorghum/Millet	Niger	SSSD-35			1200T		Early maturity type; high

								resistance to Sorghum midge very serious Sorghum pest in Niger; the damage of this pest can estimated up to 85% of yield lost.
	Pearl Millet	Zambia	Dola	1030	630	300	Medium-tall, Bristled-Bird and disease-tolerant, medium –early, grey –nutritious grain	Nationally and Regionally demanded, Adapted to all millet areas. 3.0 t/ha yield potential.
	Pearl Millet	Zambia	Mulatiwa			500		
	Pearl Millet	Zambia	Liseli			650		
2008	Sorghum	Mozambique	Adaptation and yield stability evaluation			Breeder seed maintenances		Under National Plant Trials with rain feed conditions
	Sorgo	El Salvador	ZAM 911	2.7 tm/ha of grain.	2.4 tm/ha of grain.	25 tm artisanal seed each year, each farmer produces additional seed.	Good adaptation to allow intercrop with maize, the small farmer harvest maize and sorghum in the same area	Medium plant height with good production of stover and grain quality.
	Sorghum	Mali	SANGATIGUI	2000	1500	Seed foundation is certified	Human food	Very white flour allows various industrial uses

								such as cakes, biscuit
	Sorghum/Millet	Niger	L-861			2000T		
	Pearl Millet	Zambia	Dola			3,000		
	Pearl Millet	Zambia	Mulatiwa			500		
	Pearl Millet	Zambia	Liseli			550		
2009	Sorghum	Mozambique	Adaptation and yield stability evaluation			Breeder seed maintenances		Under National Plant Trials with rain feed conditions
	Sorgo	El Salvador	ZAM 912	3.9 tm/ha of grain + 50 tm of stover (hay) perha.	2.6 tm/ha of grain.	20 tm artisanal seed each year. Additionally each farmer produces its seed.	Dual purpose grain and forage Good adaptation to allow intercrop with maize harvest maize and sorghum.	Medium plant height and good grain quality.
	Sorghum Hybrid	Mali	SEWA,	3500	1000	Seed foundation is certified	Human food and Forage quality	Very white flour allows various industrial uses such as cakes, biscuit
	Sorghum	Niger	L861;L724C;Serie of lines derived from crossing MDK by Sureno; developed through Single Seed descent Method MDSU-55-2;MDKSU-29- 1;MDK-SU-55-1;MDK-Su-53- 2:MDKSU-49-1;MDKSU-30- 1:MDKSU-2-2;MDKSU-10- 1;MDKSU-79-1;MDKSU-47-			1615T	Good food quality; Drought tolerance;	Most of those new lines had good Combiner with our 2 females: NE223 A and ATX623;on our Hybrids development program. On

	Pearl Millet Pearl Millet Pearl Millet	Zambia Zambia Zambia	1;MDKSU-47-1;MDKSU-29- 2;MDKSU-66-1;MDKSU-53- 1;MDKSU-60-1;MDKSU-55-2 Dola Mulatiwa Liseli			3,000		farm tests will be carry out in the coming years
2010	Sorghum	Mozambique	8 varieties			400 kg breeder seed produced	Good grain qualities, wide range of adaptation over sorghum production areas, drought tolerance and stay green suitable for forage	Submitted to committee of plant release
	Sorghum	Mali	TIANDOUGOU COURA	2500	1000	Seed foundation is certified	Human food and Forage quality	Very white flour allows various industrial uses such as cakes, biscuit
	Sorghum	Nicaragua	SR-16	3.5 tm/ha of grain.	3.0 tm/ha of grain.	35 mt of certified seed each year. The farmer also produces its seed for future crops.	Hybrid Grain, Food Quality; Macio PS Sorghum Varieties for Subsistence in Dry Areas of Nicaragua, Red Sorghum Grain Growing	Sorghum variety, suitable for mechanical harvesting.

	Sorghum/Millet	Niger	I-28			3500T		Good adaptation to sandy soil; good grain quality; having B reaction. Conversion into an adapted A line for our Hybrid program is in the Selection process.
	Sorghum	Zambia	[SDS5006xWSV-187)23-2-1	5 – 8 tons/ha	4-6 tons/ha	80 kgs	White tan plant, food quality bold grain, drought tolerant	Ideal for regions I and II
	Pearl Millet	Zambia	Dola			600		
2011	Sorghum	Mozambique	Matica 1	On-farm 1,400 kg/ha; On-station 2,500 – 3,000	600-1,000 kg/ha	Breeder 200 m <sup>2</sup> Planted	Good grain qualities, wide range of adaptation over	Material still in the field
				Kg/ha			sorghum production areas, drought tolerance and stay green suitable for forage	

Sorghum	Mozambique	Tocole	On-farm 1,400 kg/ha; On-station 2,500 – 3,200 Kg/ha	600-1,000 kg/ha	Breeder 200 m^2 Planted	areas, drought tolerance and stay green suitable for forage Good grain qualities, wide range of adaptation over sorghum	Material still in the field
						production areas, drought tolerance and stay green suitable for forage	
Sorghum	Mozambique	Otela	On-farm 1,500 kg/ha; On-station 2,500 – 3,500 Kg/ha	600-1,000 kg/ha	Breeder 200 m <sup>2</sup> Planted	Good grain qualities, wide range of adaptation over sorghum production areas, drought tolerance and stay green suitable for forage	Material still in the field
Mozambique	Mussequesse	On-farm 1,200 kg/ha; On-station 1,300 – 3,000 Kg/ha	600-1,000 kg/ha	Breeder 200 m <sup>2</sup> Planted	Good grain qualities, wide range of adaptation over sorghum production areas, drought tolerance and stay green suitable for	Mozambique	Mussequesse

					forage		
Mozambique	Sima	On-farm 1,250 kg/ha; On-station 2,200 – 3,000 Kg/ha	600-1,000 kg/ha	Breeder seed 200 m^2; 6 ha Foundation seed Planted	Good grain qualities, wide range of adaptation over sorghum production areas, drought tolerance and stay green suitable for forage; intermediate maturing	Mozambique	Sima
Mozambique	Mapupulo	On-farm 1,300 kg/ha; On-station 2,500 – 3,000 Kg/ha	600-1,000 kg/ha	Breeder 200 m^2 Planted	Good grain qualities, wide range of adaptation over sorghum production areas, drought tolerance and stay green suitable for forage	Mozambique	Mapupulo
Mozambique	Mucuvea	On-farm 1,800 kg/ha; On-station 3,000 – 4,000 Kg/ha	600-1,000 kg/ha	Breeder 200 m^2 Planted	Good grain qualities, wide range of adaptation over sorghum production areas, drought tolerance and stay green suitable for forage	Mozambique	Mucuvea
Sorgo	El Salvador	CENTA S-2 bmr.silage forage	2.5 tm/ha of grain and 45 tm/ha of biomass.	2.0 tm/ha of grain and 50 tm/ha biomass	29 mt / y over the seed certified seed that produces artisan farmer.	Sweet forage silage, 25% more digestible than normal sorghum.	Increased production of milk and meat in cattle.
Sorghum Hybrid	Mali	NIELENI	3000	1000	Seed foundation is certified	Human food	Very white flour allows various industrial uses

							such as cakes, biscuit
Sorghum Hybrid	Mali	GRINKAN YEREWOLO	3000	1000	Seed foundation is certified	Human food and Forage quality	Very white flour allows various industrial uses such as cakes, biscuit
Sorghum	Nicaragua	ESHG-3	5.7 tm/ha of white and good quality. grain	4.3 tm/ha	28 MT / ha of certified seed each year	Hybrid Grain, Food Quality; Macio PS Sorghum Varieties for Subsistence in Dry Areas of Nicaragua, white Sorghum Grain Growing	Good adaptation tropical high grain yield and good quality.
Sorghum	Nicaragua	INTA Segovia	4.9 ton/ha of grain	3.5 tm/ha of grain.	10 mt annually plus artisanal seed produced by each farmer.	White grain, Food Quality; Sorghum Varieties for Subsistence in Dry Areas of Nicaragua,	Variety for intercrop sorghum-maize intercrop system Allow harvest maize and sorghum simultaneously.
Sorghum	Nicaragua	INTA-943bmr	2.8 mt/ha of grain and 45 mt/ha of biomass	2.2 tm/ha of grain and 50 tm/ha biomass	20 mt/year of certified seed over the seed that produces artisanal farmer.	Sweet forage silage, 27% more digestible than normal sorghum. Medium plant height	Increased production of milk and meat in cattle.Good tropical adaptation.
Sorghum	Nicaragua	INTA-947bmr	2.5 tm/ha of grain and	2.2 tm/ha of grain	25 mt/year of certified seed over	Sweet forage silage, 25% more	Increased production of

				45 tm/ha of biomass.	and 50 tm/ha biomass	the seed that produces artisanal farmer.	digestible than normal sorghum. Medium plant	milk and meat in cattle.Good tropical
	Sorghum;Millet	Niger	L-724-C;New Generation of Hybrids was released:NE223AX90SN- 1;NE223AX 90SN- 2;NE223AX90SN-3;NE223A X 90SN-4;NE223A XL-724- C;NE223AX P9405;NE223AXP9402;NE223A X Macia;NE223AX L- 861;NE223A X SERIE of MDK- SU (all give good Hybrid)			5000T	height	adaptation.
	Sorghum	Uganda	SESO1	2205	1883	~3 t?	White grain, suitable for clear beer	
	Sorghum	Uganda	SESO2	2137	1883	~3 t?	ditto	
	Sorghum	Uganda	SESO3	2570	1883	~3 t?	Good storage	
	Sorghum	Zambia	ZSV – 36R	5 – 7 tons/ha	4-6 tons/ha	60 kgs	Red seeded OP variety, brewing	Ideal for bird prone areas in Regions I, II & III
	Pearl Millet	Zambia	Dola			2,500		
2012	Sorghum	Mozambique	03CS-GWT 115	2,300-3,500 kg/ha	600-1,000 kg/ha	Breeder 200 m^2 Planted	Grain mold and drought resistant and stay green	Material still in the field and not yet submitted to committee of variety release; Suitable to semi- arid areas
	Sorghum	Mozambique	02CS-30932	2,300- 2,900	600-1,000	Breeder 200 m^2	Grain mold and	Material still in

			kg/ha	kg/ha	Planted	drought resistant and stay green	the field and not yet submitted to committee of variety release; Suitable to semi- arid areas
Sorghum	Mozambique	04CS-523-2-1	2,500- 3,800 kg/ha	600-1,000 kg/ha	Breeder 200 m <sup>2</sup> Planted	Grain mold and drought resistant and stay green	Material still in the field and not yet submitted to committee of variety release; Suitable to semi- arid areas
Sorghum	Honduras	Sureño bmr	2.5 tm/ha of grain and 45 tm/ha of biomass.	2.0 tm/ha of grain and 50 tm/ha biomass	29 mt/year of certified seed over the seed that produces artisan farmer.	Sweet forage silage, 25% more digestible than normal sorghum.	Increased production of milk and meat in cattle.
Sorghum	Honduras	DICTA-10bmr	2.5 tm/ha of grain and 45 tm/ha of biomass.	2.0 tm/ha of grain and 50 tm/ha biomass	20 mt / y over the seed certified seed that produces artisan farmer.	Sweet forage silage, 25% more digestible than normal sorghum.	Increased production of milk and meat in cattle.
Sorghum	Honduras	DICTA-29bmr	2.5 tm/ha of grain and 45 tm/ha of biomass.	2.0 tm/ha of grain and 50 tm/ha biomass	20 mt/year of certified seed over the seed that produces artisan farmer.	Sweet forage silage, 25% more digestible than normal sorghum.	Increased production of milk and meat in cattle.
Sorghum	El Salvador	CENTA-Liberal	3.6 tm/ha of quality grain	2.0 tm/ha of grain	22 mt of certified seed over the seed that produces artisan farmer.	Good quality grain, early, and drought tolerant	Good tropical adaptation in dry areas
Sorghum	El Salvador	CENTA S-3bmrsilage forage	2.5 tm/ha of grain and	2.0 tm/ha of grain	29 mt/year of certified seed over	Sweet forage silage, 25% more	Increased production of

			45 tm/ha of biomass.	and 50 tm/ha biomass	the seed that produces artisan farmer.	digestible than normal sorghum.	milk and meat in cattle.
Sorghum	El Salvador	CENTA S-4bmr silage forage	2.5 tm/ha of grain and 45 tm/ha of biomass.	2.0 tm/ha of grain and 50 tm/ha biomass	29 mt/year of certified seed over the seed that produces artisan farmer.	Sweet forage silage, 25% more digestible than normal sorghum. Medium plant height	Increased production of milk and meat in cattle.Good tropical adaptation.
Sorghum	Guatemala	ICTA F 947bmr	2.5 tm/ha of grain and 45 tm/ha of biomass.	2.0 tm/ha of grain and 50 tm/ha biomass	25 mt/year of certified seed over the seed that produces artisan farmer.	Sweet forage silage, 25% more digestible than normal sorghum. Medium plant height	Increased production of milk and meat in cattle.Good tropical adaptation.
Sorghum	Guatemala	ICTA 85	Photosensitive varietie identified as more efficient use of nitrogen in the system corn-sorghum association. With fertilizer produced 3.5 MT / ha without fertilizer 2.5 ton / ha, 18% more than local.	2.3 mt/ ha with and without fertilizerin intercrop with maize.	The artisanal seed is produced by the same farmer each year. Currently, some 20,000 small farmers planted about 25,000 ha in Central América.	Allow harvest maize and sorghum in the same area simultaneously without competition between them.	These varieties are used by small farmers in an area of 35,000 ha in the partnership system cornsorghum.
Sorghum	Guatemala	ICTA Línea RV	5.7 mt/ha of grair quality	3.0 mt/ha and 50	50 mt/year of certified seed over	High yield potential and	Variety with good stability of

				mt/ha of forage.	the seed that produces artisan farmer.	grain quality. Plant medium height suitable for mechanized planting. Good tropical adaptation.	grain yield and produces good quantity and quality of forage. dual purpose varietie.
Sorghum	Ethiopia	Melkam/WSV-387			20 basic and pre-basic seed	Drought tolerant and good for injera making	INTSORMIL Partially supported the national program
Sorghum	Mozambique	S35	2,000- 4,060 kg/ha	600-1,000 kg/ha	Breeder 200 m <sup>2</sup> Planted	Triple purpose, grain for food, steam for forage and juice for ethanol production	Material still in the field and not yet submitted to committee of variety release; Suitable for high rainfall areas
	Sorghum	Mozambique	KARI- MTAMA 1	2,200- 3,600 kg/ha	600-1,000 kg/ha	Breeder 200 m^2 Planted	Triple purpose, grain for food, steam for forage and juice for ethanol production