

Supplementary Tables

TABLE S1 Sensory descriptors and evaluation guidelines used by sensory panel to evaluate sorghum grain samples.

Sensory attribute	Definition	Rating scale
Aroma		
Maize aroma	The intensity of an aroma associated with boiled maize (cobs), maize meal	No maize aroma = 1 Very intense maize aroma = 9
Cooked oats aroma	The intensity of an aroma associated with cooked oats	No cooked oats aroma = 1 Very intense cooked oats aroma = 9
Toasted aroma	The intensity of an aroma associated with toasted/burnt cereals	No toasted aroma = 1 Very intense toasted aroma = 9
Oily aroma	The intensity of aroma associated with fresh oil	No oily aroma = 1 Very intense oily aroma = 9
Cardboard aroma	The intensity of aroma associated with cardboard	Not cardboard aroma = 1 Very intense cardboard aroma = 9
Appearance		
Specks	Number of specks on the sorghum rice	None = 1 Many = 9
Popped kernels	Number of kernels that have popped open	None = 1 Many = 9
Flavour		
Flavour intensity	The overall flavour intensity of the sorghum rice	No flavour = 1 Very intense flavour = 9
Sweetness	The intensity of the basic sweet taste associated with sucrose	Not sweet = 1 Very sweet = 9
Maize flavour	The intensity of the flavour associated with boiled maize (cobs) maize meal	No maize flavour = 1 Very intense maize flavour = 9
Mouthfeel		
Roughness	The degree to which sharp edges are noticed before mastication	Not rough = 1 Very rough = 9
Hardness	The force required to chew the sorghum rice before swallowing	Not hard (Soft) = 1 Very hard = 9
Chewiness	The length of time and effort required to chew the sorghum rice to prepare for swallowing	Not chewy = 1 Very chewy = 9

Grainy	The degree to which small particles are noticed during mastication	Not grainy = 1 Very grainy = 9
Aftertaste		
Maize aftertaste	The intensity of the flavour associated with boiled maize (cobs) maize meal after swallowing the sample	No maize flavour = 1 Very intense maize flavour = 9
Residual particles	The number of particles of the pericarp remaining in the mouth and on teeth after swallowing the sample	None = 1 Many = 9

TABLE S2 Comparison of the descriptive sensory profiles of decorticated and/or microwave (MW) pre-treated cooked sorghum grain

Sensory attribute		Whole sorghum grain control (0% decorticated)	5% decorticated	10% decorticated	Whole sorghum grain (0% decorticated microwave-treated)	5% decorticated + microwave-treated	10% decorticated + microwave-treated	p-value
Aroma	Maize	6.1 ± 2.2 ^a	4.9 ± 2.3 ^a	4.9 ± 2.3 ^a	5.3 ± 2.8 ^a	4.9 ± 2.4 ^a	5.4 ± 2.2 ^a	0.18
	Cooked oats	3.2 ± 2.2 ^a	3.7 ± 2.6 ^a	2.8 ± 2.4 ^a	3.4 ± 2.4 ^a	4.2 ± 2.5 ^a	3.6 ± 2.4 ^a	0.24
	Toasted	1.7 ± 2.0 ^a	1.7 ± 1.8 ^{ab}	3.0 ± 3.1 ^c	2.6 ± 2.4 ^{bc}	1.8 ± 1.9 ^{ab}	1.4 ± 1.4 ^a	0.00
	Oily	0.9 ± 1.1 ^a	1.3 ± 2.1 ^a	1.1 ± 1.5 ^a	1.6 ± 2.2 ^a	1.3 ± 1.6 ^a	0.9 ± 1.2 ^a	0.49
	Cardboard	1.2 ± 1.9 ^a	1.2 ± 1.7 ^a	1.7 ± 2.1 ^a	1.2 ± 2.2 ^a	1.3 ± 1.7 ^a	1.6 ± 2.0 ^a	0.57
Appearance	Specks	5.4 ± 2.1 ^{cd}	4.7 ± 2.2 ^{ab}	4.6 ± 2.0 ^a	6.5 ± 2.1 ^d	5.2 ± 2.1 ^{abc}	5.6 ± 2.0 ^c	0.00
	Popped kernels	3.3 ± 2.4 ^a	7.3 ± 1.8 ^b	7.4 ± 1.8 ^b	3.0 ± 2.7 ^a	7.7 ± 1.7 ^b	7.4 ± 1.7 ^b	0.00
Flavour	Overall flavour	4.3 ± 2.4 ^{cd}	3.7 ± 2.2 ^{bc}	3.2 ± 2.4 ^{ab}	4.8 ± 2.1 ^d	3.6 ± 2.3 ^{abc}	2.8 ± 1.9 ^a	0.00
	Maize	5.0 ± 2.4 ^{bc}	4.2 ± 2.4 ^{ab}	3.4 ± 2.2 ^a	5.4 ^c ± 2.2 ^c	4.6 ± 2.4 ^{bc}	4.3 ± 2.3 ^{ab}	0.00
	Sweetness	1.4 ± 1.7 ^b	1.0 ± 1.4 ^{ab}	0.5 ± 0.7 ^a	0.9 ± 1.3 ^{ab}	0.5 ± 0.8 ^a	0.7 ± 0.8 ^a	0.03
Mouthfeel	Roughness	4.3 ± 2.2 ^a	4.1 ± 2.3 ^a	3.3 ± 2.2 ^a	4.2 ± 2.2 ^a	4.4 ± 2.2 ^a	4.4 ± 2.1 ^a	0.20
	Hardness	5.1 ± 2.2 ^c	2.4 ± 1.5 ^a	2.1 ± 1.6 ^a	5.7 ± 2.0 ^c	3.4 ± 2.1 ^b	2.9 ± 1.5 ^{ab}	0.00
	Chewiness	5.9 ± 2.1 ^b	4.2 ± 2.1 ^a	3.9 ± 2.3 ^a	6.0 ± 2.4 ^b	4.7 ± 2.2 ^a	4.5 ± 2.2 ^a	0.00
	Grainy	5.4 ± 2.7 ^c	4.5 ± 2.5 ^{ab}	4.3 ± 2.4 ^a	5.8 ± 2.6 ^c	4.8 ± 2.4 ^{ab}	4.5 ± 2.5 ^{ab}	0.01
Aftertaste	Maize aftertaste	3.6 ± 2.4 ^{bc}	3.5 ± 2.7 ^{bc}	2.4 ± 2.4 ^a	4.0 ± 2.6 ^c	3.2 ± 2.7 ^{bc}	2.8 ± 1.9 ^{ab}	0.00
	Residual particles	5.8 ± 2.3 ^{bc}	4.9 ± 2.3 ^a	4.4 ± 2.6 ^a	6.2 ± 2.3 ^c	5.0 ± 2.3 ^{ab}	4.3 ± 2.5 ^a	0.00

Values are mean ratings for a trained panel (n = 11) ± standard deviation. The definition of attributes is shown in Table 1. Values within the same row followed by the same letter are not significantly different (p > 0.05)