

HOW TO CITE:

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Supplementary table 1: Mean values of all samples (\pm standard deviation) of *Fusarium verticillioides* and *F. proliferatum* infection (% kernel infection) and fumonisin contamination ($\mu\text{g}/\text{kg}$) of maize varieties collected in three districts (Simdlangentsha, Hlabisa and Dumbe) of KwaZulu-Natal, South Africa, over 5 years

<i>F. verticillioides</i> (Fv) (% infected)	<i>F. proliferatum</i> (Fp) (% infected)	Sum Fv and Fp (% infected)	Fumonisin B ₁ (FB ₁) ($\mu\text{g}/\text{kg}$)	Fumonisin B ₂ (FB ₂) ($\mu\text{g}/\text{kg}$)	Fumonisin B ₃ (FB ₃) ($\mu\text{g}/\text{kg}$)	Total fumonisins (FB ₁ +FB ₂ +FB ₃) ($\mu\text{g}/\text{kg}$)
Season 1						
Simdlangentsha traditional maize (n=5)¹						
30.2 \pm 15.6 (5) ² (8–47) ³	6.0 \pm 3.9 (5) (2–11)	36.2 \pm 14.7 (5) (15–55)	500 \pm 528 (5) (143–1369)	209 \pm 251 (5) (37–640)	45 \pm 40 (5) (10–96)	753 \pm 814 (5)^a (192–2100)
Simdlangentsha conventional maize (n=8)						
14.6 \pm 11.6 (8) (1–32)	5.3 \pm 4.1 (7) (0–12)	20.0 \pm 14.3 (8) (4–40)	439 \pm 672 (7) (nd ⁴ –1936)	140 \pm 193 (6) (nd–537)	44 \pm 57 (5) (nd–146)	623 \pm 917 (7) (nd–2620)
Simdlangentsha Bt maize (n=7)						
14.1 \pm 12.5 (7) (1–34)	3.7 \pm 3.7 (5) (0–10)	17.9 \pm 14.2 (7) (1–38)	149 \pm 252 (6) (nd–690)	76 \pm 135 (4) (nd–367)	13 \pm 25 (3) (nd–66)	239 \pm 411 (6)^b (nd–1120)
Hlabisa traditional maize (n=4)						
20.5 \pm 7.9 (4) (10–29)	0.3 \pm 0.5 (1) (0–1)	20.8 \pm 8.1 (4) (10–29)	104 \pm 66 (4) (38–194)	45 \pm 24 (4) (24–77)	11 \pm 4 (4) (7–15)	159 \pm 91 (4) (76–286)
Hlabisa conventional maize (n=11)						
24.6 \pm 9.9 (11) (10–43)	0.9 \pm 1.8 (4) (0–6)	25.6 \pm 9.8 (11) (10–44)	297 \pm 409 (10) (nd–1070)	130 \pm 192 (6) (nd–505)	23 \pm 35 (5) (nd–97)	450 \pm 627 (10) (nd–1640)
Hlabisa Bt maize (n=8)						
27.1 \pm 15.5 (8) (4–52)	0.3 \pm 0.5 (2) (0–1)	27.4 \pm 15.7 (8) (4–53)	760 \pm 927 (8) (17–2260)	302 \pm 378 (6) (nd–945)	86 \pm 133 (5) (nd–346)	1150 \pm 1430 (8) (17–3550)
Season 2						
Simdlangentsha traditional maize (n=6)						
21.7 \pm 11.6 (6) (4–38)	0.8 \pm 1.6 (2) (0–4)	22.5 \pm 12.6 (6) (4–42)	197 \pm 246 (6) (12–647)	59 \pm 86 (3) (nd–222)	16 \pm 20 (3) (nd–50)	271 \pm 352 (6) (12–919)

<i>F. verticillioides</i> (Fv) (% infected)	<i>F. proliferatum</i> (Fp) (% infected)	Sum Fv and Fp (% infected)	Fumonisin B ₁ (FB ₁) (µg/kg)	Fumonisin B ₂ (FB ₂) (µg/kg)	Fumonisin B ₃ (FB ₃) (µg/kg)	Total fumonisins (FB ₁ +FB ₂ +FB ₃) (µg/kg)
Simdlangentsha conventional maize (n=12)						
27.1 ± 19.6 (12) (3–69)	1.1 ± 1.4 (6) (0–4)	28.2 ± 19.8 (12) (3–69)	577 ± 811 (11) (nd–2200)	179 ± 250 (8) (nd–683)	59 ± 95 (7) (nd–307)	815 ± 1150 (11) (nd–3110)
Simdlangentsha Bt maize (n=7)						
23.1 ± 9.8 (7) (11–36)	0.1 ± 0.4 (1) (0–1)	23.3 ± 10.0 (7) (11–37)	266 ± 269 (6) (nd–694)	99 ± 99 (4) (nd–221)	31 ± 33 (4) (nd–87)	396 ± 395 (6) (nd–981)
Hlabisa traditional maize (n=2)						
11.0 ± 7.1 (2) (6–16)	0 ± 0 (0)	11.0 ± 7.1 (2) (6–16)	183 ± 258 (1) (nd–365)	51 ± 72 (1) (nd–32)	16 ± 23 (1) (nd–32)	250 ± 353 (1) (nd–499)
Hlabisa conventional maize (n=15)						
23.7 ± 17.4 (15) (3–61)	0 ± 0 (0)	23.7 ± 17.4 (15) (3–61)	311 ± 304 (15) (8–1050)	124 ± 166 (11) (nd–662)	37 ± 38 (10) (nd–103)	472 ± 506 (15)^{a**} (8–1810)
Hlabisa Bt maize (n=11)						
12.0 ± 10.0 (10) (0–32)	0 ± 0 (0)	12.0 ± 10.0 (10) (0–32)	18 ± 19 (9) (nd–72)	4 ± 5 (4) (nd–13)	1 ± 2 (1) (nd–7)	22 ± 25 (9)^{b**} (nd–92)
Season 3						
Simdlangentsha traditional maize (n=5)						
29.0 ± 8.4 (5) (22–43)	0 ± 0 (0)	29.0 ± 8.4 (5) (22–43)	741 ± 961 (5) (44–2270)	198 ± 254 (5) (7–583)	57 ± 76 (3) (nd–174)	996 ± 1290 (5) (44–3030)
Simdlangentsha Bt maize (n=2)						
3.0 ± 0 (2) (3–3)	0 ± 0 (0)	3.0 ± 0 (2) (3–3)	120 ± 54 (2) (81–158)	23 ± 8 (2) (17–28)	10 ± 1 (2) (9–11)	152 ± 64 (2) (106–197)
Simdlangentsha Roundup–Ready® maize (n=6)						
14.8 ± 11.8 (6) (2–31)	0 ± 0 (0)	14.8 ± 11.8 (6) (2–31)	911 ± 749 (6) (71–1845)	200 ± 159 (6) (10–459)	90 ± 58 (6) (18–176)	1200 ± 949 (6) (99–2400)
Hlabisa traditional maize (n=9)						
15.0 ± 8.5 (9) (4–30)	0.3 ± 0.7 (2) (0–2)	15.3 ± 8.8 (9) (4–30)	1344 ± 2050 (9) (119–6640)	546 ± 1040 (9) (34–3280)	175 ± 236 (9) (7–633)	2070 ± 3230 (9) (160–10460)
Hlabisa conventional maize (n=8)						
23.9 ± 15.1 (8) (7–57)	0 ± 0 (0)	23.9 ± 15.1 (8) (7–57)	844 ± 1710 (8) (15–5010)	417 ± 870 (8) (7–2530)	120 ± 245 (8) (11–718)	1380 ± 2820 (8) (36–8260)
Hlabisa Bt maize (n=13)						
13.6 ± 8.1 (12) (0–26)	0 ± 0 (0)	13.6 ± 8.1 (12) (0–26)	588 ± 729 (13) (15–2440)	181 ± 222 (13) (4–757)	35 ± 41 (11) (nd–140)	804 ± 989 (13) (19–3340)

<i>F. verticillioides</i> (Fv) (% infected)	<i>F. proliferatum</i> (Fp) (% infected)	Sum Fv and Fp (% infected)	Fumonisin B ₁ (FB ₁) (µg/kg)	Fumonisin B ₂ (FB ₂) (µg/kg)	Fumonisin B ₃ (FB ₃) (µg/kg)	Total fumonisins (FB ₁ +FB ₂ +FB ₃) (µg/kg)
Hlabisa Roundup-Ready® maize (n=12)						
10.8 ± 8.5 (10) (0–24)	0.1 ± 0.3 (1) (0–1)	10.9 ± 8.5 (10) (0–24)	760 ± 1520 (12) (17–5280)	84 ± 119 (10) (nd–364)	27 ± 34 (10) (nd–104)	870 ± 1600 (12) (34–5480)
Dumbe traditional maize (n=6)						
29.5 ± 20.6 (6) (17–71)	0 ± 0 (0)	29.5 ± 20.6 (6) (17–71)	298 ± 438 (6) (5–1140)	96 ± 120 (5) (nd–333)	32 ± 51 (4) (nd–128)	426 ± 606 (6)a* (5–1600)
Dumbe Bt maize (n=3)						
24.7 ± 8.7 (3) (15–32)	0 ± 0 (0)	24.7 ± 8.7 (3) (15–32)	88 ± 116 (3) (5–220)	17 ± 19 (2) (nd–37)	4 ± 6 (2) (nd–11)	110 ± 139 (3)a* (5–268)
Dumbe Roundup-Ready® maize (n=3)						
38.3 ± 6.8 (3) (33–46)	0 ± 0 (0)	38.3 ± 6.8 (3) (33–46)	1658 ± 2610 (3) (139–4670)	729 ± 1200 (3) (39–2110)	208 ± 333 (3) (10–592)	2600 ± 4140 (3)b* (210–7380)
Season 4						
Simdlangentsha conventional maize (n=9)						
			1130 ± 1850 (9) (13–5000)	371 ± 606 (8) (nd–1560)	75 ± 146 (7) (nd–445)	1580 ± 2590 (9)a* (13–7010)
Simdlangentsha Bt maize (n=6)						
			39 ± 48 (5) (nd–130)	9 ± 16 (3) (nd–42)	3 ± 6 (1) (nd–15)	51 ± 70 (5)b* (nd–187)
Simdlangentsha Roundup-Ready® maize (n=5)						
			1520 ± 2920 (4) (nd–6720)	611 ± 1340 (4) (nd–3010)	104 ± 232 (1) (nd–519)	2230 ± 4490 (4)a* (nd–10250)
Hlabisa conventional maize (n=5)						
			55 ± 79 (5) (13–195)	11 ± 24 (1) (nd–54)	0 ± 0 (0)	66 ± 103 (5) (13–249)
Hlabisa Bt maize (n=10)						
			99 ± 108 (10) (10–325)	20 ± 21 (8) (nd–52)	10 ± 13 (6) (nd–38)	129 ± 138 (10) (10–415)
Hlabisa Roundup-Ready® maize (n=12)						
			339 ± 979 (12) (5–3440)	93 ± 288 (7) (nd–1010)	33 ± 105 (3) (nd–366)	466 ± 1370 (12) (5–4820)
Dumbe traditional maize (n=6)						
			2250 ± 3340 (6) (27–8870)	859 ± 1390 (5) (nd–3640)	284 ± 523 (5) (nd–1340)	3390 ± 5240 (6) (27–13800)

<i>F. verticillioides</i> (Fv) (% infected)	<i>F. proliferatum</i> (Fp) (% infected)	Sum Fv and Fp (% infected)	Fumonisin B ₁ (FB ₁) (µg/kg)	Fumonisin B ₂ (FB ₂) (µg/kg)	Fumonisin B ₃ (FB ₃) (µg/kg)	Total fumonisins (FB ₁ +FB ₂ +FB ₃) (µg/kg)
Dumbe conventional maize (n=16)						
			666 ± 1060 (15) (nd–3250)	217 ± 380 (15) (nd–1070)	49 ± 83 (11) (nd–249)	932 ± 1510 (15) (nd–4470)
Dumbe Bt maize (n=4)						
			364 ± 664 (4) (18–1360)	119 ± 227 (3) (nd–459)	18 ± 36 (1) (nd–72)	501 ± 927 (4) (20–1890)
Dumbe Roundup–Ready® maize (n=2)						
			125 ± 152 (2) (17–232)	43 ± 54 (2) (4–81)	12 ± 16 (1) (nd–23)	179 ± 223 (2) (21–336)
Season 5						
Simdlangentsha conventional maize (n=10)						
30.0 ± 24.2 (10) (3–67)	0.4 ± 1.3 (1) (0–4)	30.4 ± 24.5 (10)a* (3–67)	366 ± 711 (6) (nd–2100)	99 ± 181 (4) (nd–518)	35 ± 71 (4) (nd–218)	500 ± 962 (6)a* (nd–2830)
Simdlangentsha Bt maize (n=11)						
11.2 ± 12.4 (11) (2–33)	0.2 ± 0.4 (2) (0–1)	11.4 ± 12.3 (11)b* (2–33)	47 ± 141 (5) (nd–473)	8 ± 25 (1) (nd–84)	1 ± 2 (1) (nd–7)	55 ± 169 (5)b* (nd–564)
Simdlangentsha Roundup–Ready® maize (n=11)						
10.7 ± 9.9 (11) (1–29)	0.0 ± 0 (0)	10.7 ± 9.9 (11)b* (1–29)	2 ± 3 (3) (nd–10)	0 ± 0 (0)	0 ± 0 (0)	2 ± 3 (3)b* (nd–10)
Hlabisa conventional maize (n=10)						
5.0 ± 5.3 (9) (0–18)	1.2 ± 1.7 (5) (0–5)	6.2 ± 5.6 (9) (0–18)	12 ± 19 (5) (nd–60)	4 ± 8 (3) (nd–24)	0 ± 0 (0)	16 ± 26 (5) (nd–84)
Hlabisa Bt maize (n=13)						
7.0 ± 6.1 (12) (0–22)	3.4 ± 6.1 (6) (0–18)	10.4 ± 10.5 (12) (0–40)	35 ± 98 (8) (nd–359)	8 ± 6 (3) (nd–49)	2 ± 6 (1) (nd–20)	45 ± 117 (8) (nd–428)
Hlabisa Roundup–Ready® maize (n=10)						
10.5 ± 7.3 (9) (0–25)	1.2 ± 3.8 (1) (0–12)	11.7 ± 9.3 (9) (0–29)	75 ± 183 (6) (nd–589)	22 ± 49 (4) (nd–156)	5 ± 14 (2) (nd–45)	101 ± 245 (6) (nd–790)
Dumbe conventional maize (n=8)						
19.3 ± 6.1 (8) (9–31)	0.0 ± 0 (0)	19.3 ± 6.1 (8) (9–31)	1040 ± 2480 (8) (5–7160)	527 ± 1380 (7) (nd–3930)	120 ± 311 (4) (nd–888)	1690 ± 4170 (8) (5–11980)
Dumbe Bt maize (n=15)						
23.3 ± 12.8 (15) (9–58)	0.1 ± 0.3 (1) (0–1)	23.4 ± 12.8 (15) (9–58)	7660 ± 1430 (15) (8–5260)	309 ± 601 (14) (nd–2020)	67 ± 1210 (9) (nd–423)	1140 ± 2130 (15) (8–7710)

<i>F. verticillioides</i> (Fv) (% infected)	<i>F. proliferatum</i> (Fp) (% infected)	Sum Fv and Fp (% infected)	Fumonisin B ₁ (FB ₁) (µg/kg)	Fumonisin B ₂ (FB ₂) (µg/kg)	Fumonisin B ₃ (FB ₃) (µg/kg)	Total fumonisins (FB ₁ +FB ₂ +FB ₃) (µg/kg)
Dumbe Roundup-Ready® maize (n=12)						
18.7± 15.9 (11) (0–53)	0.0 ± 0 (0)	18.7± 15.9 (11) (0–53)	462 ± 980 (12) (7–2870)	182 ± 398 (10) (nd–1150)	30 ± 71 (3) (nd–225)	674 ± 1440 (12) (8–4000)

1: Number of samples collected; 2: Number of positive samples; 3: Range of all samples; 4: Not detected (<5 µg/kg)

a, b: Significant differences between maize types within a year within a location are indicated by bold type, different lowercase letters are significantly different, same lowercase letters are not significantly different: *p<0.05; **p<0.001