**Supplementary table 1**

|  |  |  |
| --- | --- | --- |
| n | Brazil chicken ToxoDB genotype | References |
| 7 | #2, Type III (7, TgCkBr31,56, TgCkBr158,161,164, TgCkBr231, CH6), | Dubey *et al*. (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) / Dubey *et al.* (2007b, 2008b); Shwab *et al.* (2014) / Dubey *et al.* (2010); Shwab *et al.* (2014) / Brandão *et al.* (2006); Silva *et al.* (2014) |
| 5 | #3, Type II variant (5, TgCkBr221, 225,226,228,230), | Dubey *et al.* (2010); Shwab *et al.* (2014) |
| 28 | #6 (28, TgCkBr4, TgCkBr10, TgCkBr123,124, TgCkBr55,79,86,87, TgCkBr98,101,102,104, TgCkBr265,273,277,281, TgCkBr201,203,207, TgCkBr144, TgCkBrEs4,5, TgCkBrPr2,3, TgCkBrMA4, CH4,5, TgChBrUD2), | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014); THIS STUDY (genotyping) / Dubey *et al.* (2002, 2006a, 2008b); Shwab et al. (2014) / Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) / Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) / Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) / Beltrame *et al.* (2012); Pena *et al.* (2013) / Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) / Dubey *et al.* (2007b); Shwab *et al.* (2014) / Ferreira *et al.* (2018) / Vieira *et al.* (2018) / Sousa *et al.* (2016) / Brandão *et al.* (2006); Silva *et al.* (2014) / Lopes *et al.* (2016)  |
| 6 | #7 (6, TgCkBr111,112, TgCkBr182, TgCkBr196, TgCkBrMA2,3), | Dubey *et al.* (2007b); Shwab *et al.* (2014) / de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) / Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) / Sousa *et al.* (2016)  |
| 2 | #10, Type I (2, TgCkBr146, TgCkBrSC1), | Dubey *et al.* (2007a, 2008b); Shwab *et al.* (2014) / Pena *et al.* (2018) |
| 11 | #11 (11, TgChBrUD1, TgCkBr97, TgCkBrPB9, Pains1,2,TgCkBr57,64, CH7,9,10,11), | Lopes *et al.* (2016) / Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) / Feitosa *et al.* (2016, 2017)/ Camillo (2015); Cadore *et al.* (2018) / Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) / Brandão *et al.* (2006); Silva *et al.* (2014)   |
| 30 | #13 (30, TgCkBrPB3,10,13,15,16,17,18, 19,20,22, 23,24,25,27, TgCkBr165, TgCkBr183,184,185, TgCkBr167,170, TgCkBr174,176, TgCkBr179,180, TgCkBr288,289,290,291,292,293), | Feitosa *et al.* (2016, 2017) /de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) / Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) /  |
| 7 | #15 (7, TgCkBr119,120,122, 29,135, 137,140), | Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) |
| 13 | #8 (13, TgCkBr7,11,17, TgCkBr131,132, 133,134, TgCkBr194,195, TgCkBr285,286, TgCkBrPB30, CH12), | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014) / Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) / Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) / Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al*. (2018) /Feitosa *et al.* (2016, 2017) / Brandão *et al.* (2006); Silva *et al.* (2014) |
| 6 | #14 (6, TgCkBr82,90, TgCkBr153, TgCkBr236,237,241), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) / Dubey *et al.* (2007a, 2008b); Shwab *et al.* (2014) / Beltrame *et al.* (2012); Pena *et al.* (2013) |
| 8 | #17 (8, TgCkBr147,148,151,154,160,162,163, TgCkBr81), | Dubey *et al.* (2007a, 2008b); Shwab *et al.* (2014) / Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 10 | #19 (10, TgCkBr28,33,50,52,58, TgCkBrPr5, TgCkBr205,209, CH2,3), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) / Vieira *et al.* (2018) / Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) / Brandão *et al.* (2006); Silva *et al.* (2014)  |
| 3 | #21 (3, TgCkBrPr7,13, TgCkBr95), | Vieira *et al.* (2018) / Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) |
| 8 | #22 (8, TgCkBr27,38,44,51,65,66,78,80), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 1 | #25 (1, TgCkBr110), | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| 7 | #26 (7, TgCkBr149,150, 152,157, TgCkBrSC2, Ck32,35), | Dubey *et al.* (2007a, 2008b); Shwab *et al.* (2014) / Pena *et al.* (2018) / Trevisani *et al*. (2017) |
| 3 | #28 (3, TgCkBr115,142,145), | Dubey et al. (2007b); Shwab et al. (2014) |
| 1 | #29 (1, TgCkBr114), | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| 1 | #30 (1, TgCkBr113), | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| 5 | #33 (5, TgCkBr41,42,49,60,62), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 7 | #36 (7, TgCkBr30,34,59,67, TgCkBr307, TgCkBrEs2,3), | Dubey *et al*. (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) / Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) / Ferreira *et al*. (2018)  |
| 4 | #37 (4, TgCkBr32,36,84,85) | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 3 | #40 (3, TgCkBr75,76,92), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 3 | #41 (3, TgCkBr136,138,139), | Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) |
| 3 | #45 (3, TgCkBr117,126,127), | Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) |
| 2 | #47 (2, TgCkBr99,100), | Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) |
| 4 | #48 (4, TgCkBrPB4,5,6, TgCkBr181), | Feitosa et al. (2016, 2017) / de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| 1 | #51 (1, TgCkBr46), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 3 | #53 (3, TgCkBr96, Ck103, TgCkBrSC3), | Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) / Trevisani *et al.* (2017) / Pena *et al.* (2018)  |
| 1 | #55 (1, SF306) | Camillo (2015); Cadore *et al.* (2018) |
| 2 | #57 (2, TgCkBr171,172) | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| 2 | #59 (2, TgCkBr40,47), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015)  |
| 3 | #63 (3, TgCkBr6, TgCkBr13,23), | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) / Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al*. (2014)  |
| 3 | #64 (3, TgCkBr19,24, SF1), | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014) / Camillo (2015); Cadore *et al.* (2018) |
| 2 | #65 (2, TgCkBr89, TgCkBr280), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) / Beltrame *et al.* (2012); Pena *et al.* (2013) |
| 3 | #69 (3, TgCkBr21, TgCkBr93,94), | Dubey et al. (2002, 2006a, 2008b); THIS STUDY (genotyping) / Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014)  |
| 2 | #70 (2, TgCkBr107,108), | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| 3 | #71 (3, TgCkBr26,69, TgCkBr71), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) / Dubey *et al.* (2003a, 2006a); THIS STUDY (genotyping) |
| 3 | #75 (3, TgCkBr48,88, TgCkBr272) | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) / Beltrame *et al.* (2012); Pena *et al.* (2013) |
| 2 | #76 (2, TgCkBr155,159), | Dubey *et al.* (2007b, 2008b); Shwab *et al.* (2014) |
| 1 | #77 (1, TgCkBr141), | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| 1 | #78 (1, TgCkBr169), | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| 1 | #81 (1, TgCkBr173), | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| 1 | #82 (1, TgCkBr54), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 1 | #87 (1, TgCkBr156), | Dubey *et al.* (2007b, 2008b); Shwab *et al.* (2014) |
| 3 | #88 (3, TgCkBrPB28,29, TgCkBr186), | Feitosa *et al.* (2016, 2017) / de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014)  |
| 1 | #93 (1, TgCkBr61), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 1 | #94 (1, TgCkBr16), | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014) |
| 1 | #96 (1, TgCkBr109), | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| 1 | #105 (1, TgCkBr143), | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| 1 | #107 (1, TgCkBr37), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 17 | #108 (17, TgCkBr234,235,238,239,240,242,243,247,248,253,254,255,256,261,262,263,264), | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| 5 | #109 (5, TgCkBr177, TgCkBrMA1, TgCkBr249,250,252), | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) / Sousa *et al.* (2016) / Beltrame *et al.* (2012); Pena *et al.* (2013)  |
| 2 | #111 (2, TgCkBrPr4,15), | Vieira *et al.* (2018) |
| 2 | #114 (2, TgCkBr166, TgCkBrAL02), | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) / Ribeiro-Andrade *et al.* (2019) |
| 3 | #116 (3, TgCkBr130, TgCkBrPB1,2), | Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) / Feitosa *et al.* (2016, 2017) / |
| 2 | #120 (2, Ck89,102), | Trevisani *et al.* (2017) |
| 4 | #122 (4, TgCkBr296,301,305,308), | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| 1 | #125 (1, TgCkBr8), | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014) |
| 1 | #129 (1, TgCkBr168), | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| 1 | #134 (1, TgCkBr178), | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| 1 | #135 (1, TgCkBr45), | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 1 | #138 (1, TgCkBr74) | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| 1 | #140 (1, SF439), | Camillo (2015); Cadore *et al.* (2018) |
| 1 | #142 (1, TgCkBr222), | Dubey *et al.* (2010); Shwab *et al.* (2014) |
| 16 | #146 (16, TgCkBr210, 211, 212, 213,214,215,216,217,218,219,223,224,227,229,233, TgCkAL01), | Dubey *et al.* (2010); Shwab *et al.* (2014) /dos Santos Silva *et al.* (2020) |
| 1 | #152 (1, TgCkBrPr10), | Vieira *et al.* (2018) |
| 1 | #153 (1, TgCkBr232), | Dubey *et al.* (2010); Shwab *et al.* (2014) |
| 2 | #157 (2, TgCkBr202, 204), | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| 1 | #158 (1, TgCkBr206), | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| 1 | #159 (1, TgCkBr200), | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| 1 | #161 (1, TgCkBr199), | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| 5 | #162 (5, TgCkBr267,268,269,270,271), | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| 10 | #163 (10, TgCkBrRN1,2,3,4,10,12,13, TgCkBr220, CH1, BM), | Clementino *et al.* (2013) / Dubey *et al.* (2010); Shwab *et al.* (2014) / Brandão *et al.* (2006); Silva *et al.* (2014) / Camillo (2015); Cadore *et al.* (2018) |
| 1 | #164 (1, TgCkBr208), | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| 6 | #172 (6, TgCkBr188-193), | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| 1 | #174 (1, TgCkBr197),2 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| 1 | #175 (1, TgCkBrPr8), | Vieira *et al.* (2018) |
| 7 | #206 (7, TgCkBr244,245,246,278,279, TgCkBrEs1, CH8), | Beltrame *et al.* (2012); Pena *et al.* (2013) / Ferreira *et al.* (2018) / Brandão *et al.* (2006); Silva *et al.* (2014) |
| 3 | #213 (3, TgCkBr258,259,260), | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| 1 | #214 (1, TgCkBr257), | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| 1 | #215 (1, TgCkBr274), | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| 1 | #227 (1, TgCkBr3), | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| 2 | #235 (2, TgCkBr294, 295), | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| 1 | #242, new (1, TgCkBr83), | Dubey *et al.* (2003a, 2006a); THIS STUDY (genotyping) |
| 1 | #243, new (1, TgCkBr63), | Dubey *et al.* (2003a, 2006a); THIS STUDY (genotyping) |
| 1 | #244 (1, TgCkBr18), | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| 1 | #245 (1, TgCkBr5), | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| 1 | #246 (1, TgCkBr14) | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| 1 | #248 (1, TgCkBrPr16), | Vieira *et al.* (2018) |
| 1 | #251(1, TgCkBrPr11), | Vieira *et al.* (2018) |
| 1 | #252 (1, TgCkBrPr14), | Vieira *et al.* (2018) |
| 1 | #253 (1, TgCkBrPr17), | Vieira *et al.* (2018) |
| 1 | #257 (1, TgCkBr282), | Vitaliano *et al.* (2015) |
| 1 | #258 (1, TgCkBr283), | Vitaliano *et al.* (2015) |
| 1 | #269 (1, TgCkBrMA5), | Sousa *et al.* (2016) |
| 1 | #271 (1, AG), | Camillo (2015); Cadore *et al.* (2018) |
| 3 | #273 (3, TgCkBrPB11,12,14), | Feitosa *et al.* (2016, 2017) |
| 1 | #274 (1, TgCkBrPB26), | Feitosa *et al.* (2016, 2017) |
| 4 | #277 (4, TgCkBrPB7,8, TgCkAL02, TgCkBrAL01), | Feitosa *et al.* (2016, 2017) / Ribeiro-Andrade *et al.* (2019) / dos Santos Silva *et al.* (2020) |
| 1 | #278 (1, TgCkBrSC4), | Pena *et al.* (2018) |
| 2 | #280 (2, TgCkBrRS20,21), | Vielmo *et al.* (2019) |
| 1 | #302 (1, TgCkBr302) | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| 1 | #303 (1, TgCkBr303) | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| 1 | #304 (1, TgCkBr304) | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| 1 | #305 (1, Ck56) | Trevisani *et al.* (2017) |
| 1 | #306 (1, Ck127) | Trevisani *et al.* (2017) |
| 1 | #308 (1, AS) | Camillo (2015); Cadore *et al.* (2018) |
|  |  |  |
| 365 | **108 genotypes** |  |
|  |  |  |
| 4 | Incomplete (4, TgCkBr300,306, TgCkBr116, SA) | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) /Dubey *et al.* (2007b); Shwab *et al.* (2014) / Camillo (2015); Cadore *et al.* (2018) |
| 9 | Mixed (9, TgCkBr284,287,297,298,299, TgCkBr175, TgCkBr187, TgCkBr198, Ck128) | Trevisani *et al.* (2017) / Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) / de Oliveira *et al*. (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) / Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| 3 | Mixed (3, not named) | Vitaliano *et al.* (2015) |

Supplementary table 2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ToxoDB-RFLP genotype number | State of Brazil | N. isolates | Isolate ID | References |
| #002, Type III | Fernando de Noronha | 1 | TgCkBr231 | Dubey *et al.* (2010); Shwab *et al.* (2014) |
| #002, Type III | Rio de Janeiro | 2 | TgCkBr31, 56 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #002, Type III | Rio Grande do Sul | 3 | TgCkBr158, 161, 164 | Dubey *et al.* (2007b, 2008b); Shwab *et al.* (2014) |
| #002, Type III  | Minas Gerais | 1 | CH6 | Brandão *et al.* (2006); Silva *et al.* (2014) |
| #003, Type II variant | Fernando de Noronha | 5 | TgCkBr221, 225, 226, 228, 230 | Dubey *et al.* (2010); Shwab *et al.* (2014) |
| #006, Type BrI | Espírito Santo | 4 | TgCkBr265, 273, 277, 281 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #006, Type BrI | Espírito Santo | 2 | TgCkBrEs4, 5 | Ferreira *et al.* (2018) |
| #006, Type BrI | Maranhão | 1 | TgCkBrMA4 | Sousa *et al.* (2016) |
| #006, Type BrI | Mato Grosso do Sul | 3 | TgCkBr201, 203, 207 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #006, Type BrI | Minas Gerais | 2 | CH4, CH5  | Brandão *et al.* (2006); Silva *et al.* (2014) |
| #006, Type BrI | Minas Gerais | 1 | TgChBrUD2 | Lopes *et al.* (2016) |
| #006, Type BrI | Pará | 1 | TgCkBr144 | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| #006, Type BrI | Paraná  | 4 | TgCkBr98, 101, 102, 104 | Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) |
| #006, Type BrI | Paraná  | 2 | TgCkBrPr2, 3 | Vieira *et al.* (2018) |
| #006, Type BrI | Rio de Janeiro | 4 | TgCkBr55, 79, 86, 87 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #006, Type BrI | Rondônia | 2 | TgCkBr123, 124 | Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) |
| #006, Type BrI | São Paulo | 1 | TgCkBr10 | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014) |
| #006, Type BrI | São Paulo | 1 | TgCkBr4 | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| #007 | Ceará | 1 | TgCkBr182 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #007 | Maranhão | 2 | TgCkBrMA2,3 | Sousa *et al.* (2016) |
| #007 | Mato Grosso do Sul | 1 | TgCkBr196 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #007 | Pará | 2 | TgCkBr111, 112 | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| #008, Type BrIII | Mato Grosso do Sul | 2 | TgCkBr194, 195 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #008, Type BrIII | Minas Gerais | 1 | CH12 | Brandão *et al.* (2006); Silva *et al.* (2014) |
| #008, Type BrIII | Paraíba | 1 | TgCkBrPB30 | Feitosa *et al.* (2016, 2017) |
| #008, Type BrIII | Rondônia | 4 | TgCkBr131,132, 133, 134 | Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) |
| #008, Type BrIII | São Paulo | 3 | TgCkBr7, 11, 17 | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014) |
| #008, TypeBrIII | Bahia | 2 | TgCkBr285, 286 | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| #010, Type I | Rio Grande do Sul | 1 | TgCkBr146 | Dubey *et al.* (2007b, 2008b); Shwab *et al.* (2014) |
| #010, Type I | Santa Catarina | 1 | TgCkBrSC1 | Pena *et al.* (2018) |
| #011, Type BrII | Minas Gerais | 4 | CH7, 9, 10, 11 | Brandão *et al.* (2006); Silva *et al.* (2014) |
| #011, Type BrII | Minas Gerais | 1 | TgChBrUD1 | Lopes *et al.* (2016) |
| #011, Type BrII | Paraíba | 1 | TgCkBrPB9 | Feitosa *et al.* (2016, 2017) |
| #011, Type BrII | Paraná  | 1 | TgCkBr97 | Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) |
| #011, Type BrII | Rio de Janeiro | 2 | TgCkBr57, 64 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #011, Type BrII | Rio Grande do Sul | 2 | Pains1, 2 | Camillo (2015); Cadore *et al.* (2018) |
| #013 | Alagoas | 2 | TgCkBr184, 185 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #013 | Bahia | 2 | TgCkBr174,176 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #013 | Bahia | 6 | TgCkBr288, 289, 290, 291, 292, 293 | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| #013 | Ceará | 2 | TgCkBr179, 180 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #013 | Paraíba | 14 | TgCkBrPB3, 10, 13, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 27  | Feitosa *et al.* (2016, 2017) |
| #013 | Pernambuco | 1 | TgCkBr165 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #013 | Rio Grande do Norte | 2 | TgCkBr167, 170 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #013 | Sergipe | 1 | TgCkBr183 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #014 | Espírito Santo | 3 | TgCkBr236, 237, 241 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #014 | Rio de Janeiro | 2 | TgCkBr82, 90 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #014 | Rio Grande do Sul | 1 | TgCkBr153 | Dubey *et al.* (2007b, 2008b); Shwab *et al.* (2014) |
| #015 | Rondônia | 7 | TgCkBr119, 120, 122, 129, 135, 137, 140 | Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) |
| #017, Type BrIV | Rio de Janeiro | 1 | TgCkBr81 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #017, Type BrIV | Rio Grande do Sul | 7 | TgCkBr147, 148, 151, 154, 160, 162, 163 | Camillo (2015); Cadore *et al.* (2018) |
| #019 | Mato Grosso do Sul | 2 | TgCkBr205, 209 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #019 | Minas Gerais  | 2 | CH2, CH3 | Brandão *et al.* (2006); Silva *et al.* (2014) |
| #019 | Paraná | 1 | TgCkBrPr5 | Vieira *et al.* (2018) |
| #019 | Rio de Janeiro | 5 | TgCkBr28, 33, 50, 52, 58 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #021 | Paraná | 1 | TgCkBr95 | Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) |
| #021 | Paraná | 2 | TgCkBrPr7, 13 | Vieira *et al.* (2018) |
| #022 | Rio de Janeiro | 8 | TgCkBr27, 38, 44, 51, 65, 66, 78, 80 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #025 | Pará | 1 | TgCkBr110 | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| #026 | Rio Grande do Sul | 4 | TgCkBr149, 150, 152, 157 | Camillo (2015); Cadore *et al.* (2018) |
| #026 | Santa Catarina | 1 | TgCkBrSC2 | Pena *et al.* (2018) |
| #026 | Santa Catarina | 2 | Ck32, 35  | Trevisani *et al.* (2017) |
| #028 | Pará | 3 | TgCkBr115, 142, 145 | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| #029 | Pará | 1 | TgCkBr114 | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| #030 | Pará | 1 | TgCkBr113 | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| #033 | Rio de Janeiro | 5 | TgCkBr41, 42, 49, 60, 62 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #036 | Bahia | 1 | TgCkBr307 | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| #036 | Espírito Santo | 2 | TgCkBrEs2, 3 | Ferreira *et al.* (2018) |
| #036 | Rio de Janeiro | 4 | TgCkBr30, 34, 59, 67 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #037 | Rio de Janeiro | 4 | TgCkBr32, 36, 84, 85 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #040 | Rio de Janeiro | 3 | TgCkBr75, 76, 92 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #041 | Rondônia | 3 | TgCkBr136, 138, 139 | Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) |
| #045 | Rondônia | 3 | TgCkBr117, 126, 127 | Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) |
| #047 | Paraná | 2 | TgCkBr99, 100 | Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) |
| #048 | Ceará | 1 | TgCkBr181 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #048 | Paraíba | 3 | TgCkBrPB4, 5, 6 | Feitosa *et al.* (2016, 2017) |
| #051 | Rio de Janeiro | 1 | TgCkBr46 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #053 | Paraná | 1 | TgCkBr96 | Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) |
| #053 | Santa Catarina | 1 | TgCkBrSC3 | Pena *et al.* (2018) |
| #053 | Santa Catarina | 1 | Ck103 | Trevisani *et al.* (2017) |
| #055 | Rio Grande do Sul | 1 | SantaFlora306 | Camillo (2015); Cadore *et al.* (2018) |
| #057 | Maranhão | 2 | TgCkBr171, 172 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #059 | Rio de Janeiro | 2 | TgCkBr40, 47 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #063 | São Paulo | 2 | TgCkBr13, 23 | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014) |
| #063 | São Paulo | 1 | TgCkBr6 | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| #064 | Rio Grande do Sul | 1 | SantaFlora1 | Camillo (2015); Cadore *et al.* (2018) |
| #064 | São Paulo | 2 | TgCkBr19, 24 | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014) |
| #065 | Espírito Santo | 1 | TgCkBr280 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #065 | Rio de Janeiro | 1 | TgCkBr89 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #069 | Paraná  | 2 | TgCkBr93, 94 | Dubey *et al.* (2003d, 2006a, 2008b); Shwab *et al.* (2014) |
| #069 | São Paulo | 1 | TgCkBr21 | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| #070 | Pará | 2 | TgCkBr107, 108 | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| #071 | Rio de Janeiro | 2 | TgCkBr26, 69 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #071 | Rio de Janeiro | 1 | TgCkBr71 | Dubey *et al.* (2003a, 2006a); THIS STUDY (genotyping) |
| #075 | Espírito Santo | 1 | TgCkBr272 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #075 | Rio de Janeiro | 2 | TgCkBr48, 88 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #076 | Rio Grande do Sul | 2 | TgCkBr155, 159 | Dubey *et al.* (2007b, 2008b); Shwab *et al.* (2014) |
| #077 | Pará | 1 | TgCkBr141 | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| #078 | Rio Grande do Norte | 1 | TgCkBr169 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #081 | Bahia | 1 | TgCkBr173 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #082 | Rio de Janeiro | 1 | TgCkBr54 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #087 | Rio Grande do Sul | 1 | TgCkBr156 | Dubey *et al.* (2007b, 2008b); Shwab *et al.* (2014) |
| #088 | Alagoas | 1 | TgCkBr186 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #088 | Paraíba | 2 | TgCkBrPB28, 29 | Feitosa *et al.* (2016, 2017) |
| #093 | Rio de Janeiro | 1 | TgCkBr61 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #094 | São Paulo | 1 | TgCkBr16 | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014) |
| #096 | Pará | 1 | TgCkBr109 | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| #105 | Pará | 1 | TgCkBr143 | Dubey *et al.* (2007b); Shwab *et al.* (2014) |
| #107 | Rio de Janeiro | 1 | TgCkBr37 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #108 | Espírito Santo | 17 | TgCkBr234, 235, 238, 239, 240, 242, 243, 247, 248, 253, 254, 255, 256, 261, 262, 263, 264 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #109 | Ceará | 1 | TgCkBr177 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #109 | Espírito Santo | 3 | TgCkBr249, 250, 252 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #109 | Maranhão | 1 | TgCkBrMA1 | Sousa *et al.* (2016) |
| #111 | Paraná | 2 | TgCkBrPr4, 15 | Vieira *et al.* (2018) |
| #114 | Alagoas | 1 | TgCkBrAL02 | Ribeiro-Andrade *et al.* (2019) |
| #114 | Pernambuco | 1 | TgCkBr166 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #116 | Paraíba | 2 | TgCkBrPB1, 2  | Feitosa *et al.* (2016, 2017) |
| #116 | Rondônia | 1 | TgCkBr130 | Dubey *et al.* (2006a, 2008b); Shwab *et al.* (2014) |
| #120 | Santa Catarina | 2 | Ck89, 102 | Trevisani *et al.* (2017) |
| #122 | Bahia | 4 | TgCkBr296, 301, 305, 308 | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| #125 | São Paulo | 1 | TgCkBr8 | Dubey *et al.* (2002, 2006a, 2008b); Shwab *et al.* (2014) |
| #129 | Rio Grande do Norte | 1 | TgCkBr168 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #134 | Ceará | 1 | TgCkBr178 | de Oliveira *et al.* (2009); Dubey *et al.* (2008b); Shwab *et al.* (2014) |
| #135 | Rio de Janeiro | 1 | TgCkBr45 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #138 | Rio de Janeiro | 1 | TgCkBr74 | Dubey *et al.* (2003a, 2006a); Shwab *et al.* (2014); Casartelli-Alves *et al.* (2014, 2015) |
| #140 | Rio Grande do Sul | 1 | SF439 | Camillo (2015); Cadore *et al.* (2018) |
| #142 | Fernando de Noronha | 1 | TgCkBr222 | Dubey *et al.* (2010); Shwab *et al.* (2014) |
| #146 | Alagoas | 1 | TgCkAL01 | dos Santos Silva *et al.* (2020) |
| #146 | Fernando de Noronha | 15 | TgCkBr210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 223, 224, 227, 229, 233 | Dubey *et al.* (2010); Shwab *et al.* (2014) |
| #152 | Paraná | 1 | TgCkBrPr10 | Vieira *et al.* (2018) |
| #153 | Fernando de Noronha | 1 | TgCkBr232 | Dubey *et al.* (2010); Shwab *et al.* (2014) |
| #157 | Mato Grosso do Sul | 2 | TgCkBr202, 204 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #158 | Mato Grosso do Sul | 1 | TgCkBr206 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #159 | Mato Grosso do Sul | 1 | TgCkBr200 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #161 | Mato Grosso do Sul | 1 | TgCkBr199 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #162 | Espírito Santo | 5 | TgCkBr267, 268, 269, 270, 271 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #163 | Fernando de Noronha | 1 | TgCkBr220 | Dubey *et al.* (2010); Shwab *et al.* (2014) |
| #163 | Minas Gerais | 1 | CH1 | Brandão *et al.* (2006); Silva *et al.* (2014) |
| #163 | Rio Grande do Norte | 7 | TgCkBrRN1, 2, 3, 4, 10, 12, 13 | Clementino *et al.* (2013) |
| #163 | Rio Grande do Sul | 1 | BM | Camillo (2015); Cadore *et al.* (2018) |
| #164 | Mato Grosso do Sul | 1 | TgCkBr208 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #172 | Mato Grosso do Sul | 6 | TgCkBr188, 189, 190, 191, 192, 193 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #174 | Mato Grosso do Sul | 1 | TgCkBr197 | Soares *et al.* (2011); Holsback *et al.* (2012); Shwab *et al.* (2014) |
| #175 | Paraná | 1 | TgCkBrPr8 | Vieira *et al.* (2018) |
| #206 | Espírito Santo | 5 | TgCkBr244, 245, 246, 278, 279 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #206 | Espírito Santo | 1 | TgCkBrEs1 | Ferreira *et al.* (2018) |
| #206 | Minas Gerais | 1 | CH8 | Brandão *et al.* (2006); Silva *et al.* (2014) |
| #213 | Espírito Santo | 3 | TgCkBr258, 259, 260 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #214 | Espírito Santo | 1 | TgCkBr257 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #215 | Espírito Santo | 1 | TgCkBr274 | Beltrame *et al.* (2012); Pena *et al.* (2013) |
| #227 | São Paulo | 1 | TgCkBr3 | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| #235 | Bahia | 2 | TgCkBr294, 295 | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| #242 (new) | Rio de Janeiro | 1 | TgCkBr83 | Dubey *et al.* (2003a, 2006a); THIS STUDY (genotyping) |
| #243 (new) | Rio de Janeiro | 1 | TgCkBr63 | Dubey *et al.* (2003a, 2006a); THIS STUDY (genotyping) |
| #244 | São Paulo | 1 | TgCkBr18 | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| #245 | São Paulo | 1 | TgCkBr5 | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| #246 | São Paulo | 1 | TgCkBr14 | Dubey *et al.* (2002, 2006a, 2008b); THIS STUDY (genotyping) |
| #248 | Paraná | 1 | TgCkBrPr16 | Vieira *et al.* (2018) |
| #251 | Paraná | 1 | TgCkBrPr11 | Vieira *et al.* (2018) |
| #252 | Paraná | 1 | TgCkBrPr14 | Vieira *et al.* (2018) |
| #253 | Paraná | 1 | TgCkBrPr17 | Vieira *et al.* (2018) |
| #257 | Amazonas | 1 | TgCkBr282 | Vitaliano *et al.* (2015) |
| #258 | Amazonas | 1 | TgCkBr283 | Vitaliano *et al.* (2015) |
| #269 | Maranhão | 1 | TgCkBrMA5 | Sousa *et al.* (2016) |
| #271 | Rio Grande do Sul | 1 | AG | Camillo (2015); Cadore *et al.* (2018) |
| #273 | Paraíba | 3 | TgCkBrPB11, 12, 14 | Feitosa *et al.* (2016, 2017) |
| #274 | Paraíba | 1 | TgCkBrPB26 | Feitosa *et al.* (2016, 2017) |
| #277 | Paraíba | 2 | TgCkBrPB7, 8 | Feitosa *et al.* (2016, 2017) |
| #277  | Alagoas | 1 | TgCkBrAL01 | Ribeiro-Andrade *et al.* (2019) |
| #277  | Alagoas | 1 | TgCkAL02 | dos Santos Silva *et al.* (2020) |
| #278 | Santa Catarina | 1 | TgCkBrSC4 | Pena *et al.* (2018) |
| #280 | Rio Grande do Sul | 2 | TgCkBrRS20, 21 | Vielmo *et al.* (2019) |
| #302  | Bahia | 1 | TgCkBr302 | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| #303  | Bahia | 1 | TgCkBr303 | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| #304  | Bahia | 1 | TgCkBr304 | Costa *et al.* (2008); Gonçalves *et al.* (2012); Rocha *et al.* (2018) |
| #305  | Santa Catarina | 1 | Ck56 | Trevisani *et al.* (2017) |
| #306  | Santa Catarina | 1 | Ck127 | Trevisani *et al.* (2017) |
| #308  | Rio Grande do Sul | 1 | AS | Camillo (2015); Cadore *et al.* (2018) |
| 108 genotypes |  | **365 genotyped isolates** |  |  |