

( ) = number of citations at 10 September 2009 according to ISI Web of KNOWLEDGE<sup>SM</sup>

108. Liu, W., Earl, H.J. and Tollenaar, M. 2010. Effect of cold stress on photosynthesis and chlorophyll fluorescence in a maize hybrid and its parental inbred lines during the seedling phase and the grain-filling period. *Crop Sci.* 50: (submitted).
107. Page, E.R., Tollenaar, M., Lee, E.A., Lukens, L. and Swanton, C.J. 2009. Does the shade avoidance response contribute to the critical period for weed control maize (*Zea mays* L.)? *Weed Res.* 49: (accepted)
106. Boomsma, C. R., Santini, J. B., Tollenaar, M. and Vyn, T.J. 2009. Maize morphophysiological responses to intense crowding and low nitrogen availability: An analysis and review. *Agron. J.* 101:1426-1452.
105. Liu, W. and Tollenaar, M. 2009. Physiological mechanisms underlying heterosis for shade tolerance in maize. *Crop Sci.* 49:1817-1826.
104. Liu, W. and Tollenaar, M. 2009. Response of yield heterosis to increasing plant density in maize. *Crop Sci.* 49:1807-1816.
103. Kumudini, S., Prior, E., Omielan, J. and Tollenaar, M. 2008. Impact of *Phakospora pachyrhizi* infection on soybean leaf photosynthesis and radiation absorption. *Crop Sci.* 48: 2343-2350. (1)
102. Kumudini, S., Godoy, C.V., Board, J.E., Omielan, J. and Tollenaar, M. 2008. Mechanisms involved in soybean rust induced yield reduction. *Crop Sci.* 48: 2334-2342. (1)
101. Echarte, L., Rothstein, S. and Tollenaar, M. 2008. The response of leaf photosynthesis and dry matter accumulation to nitrogen supply in an older and a newer maize hybrid. *Crop Sci.* 48:656-665. (4)
100. Lee, E.A. and Tollenaar, M. 2007. Physiological basis of successful breeding strategies for maize grain yield. *Crop Sci.* 47:S202-S215. (2)
99. Tollenaar, M. and Lee, E.A. 2006. Dissection of physiological processes underlying grain yield in maize by examining genetic improvement and heterosis. *Maydica* 51:399-408. (6)
98. Kay, B.D., Hajabbasi, M.A., Ying, J. and Tollenaar, M. 2006. Optimum versus non-limiting water contents for root growth, biomass accumulation, gas exchange and rate of development of maize (*Zea mays* L.). *Soil Till. Res.* 88:42-54. (5)
97. Tollenaar, M., Deen, W., Echarte, L. and Liu, W. 2006. Effect of crowding stress on dry matter accumulation and harvest index in maize. *Agron. J.* 98:930-937. (6)
96. Echarte, L. and Tollenaar, M. 2006. Kernel set in maize hybrids and their inbred lines exposed to stress. *Crop Sci.* 46:870-878. (11)
95. Valentinuz, O. and Tollenaar, M. 2006. Effect of genotype, nitrogen, plant density, and row spacing on the area-per-leaf profile in maize. *Agron. J.* 98:94-99. (2)
94. Fasoula, V.A. and Tollenaar, M. 2005. The impact of plant population density on crop yield and response to selection in maize. *Maydica* 50:39-61. (6)
93. Lee, E.A., Ahmadzadeh, A. and Tollenaar, M. 2005. Quantitative genetic analysis of the physiological processes underlying maize grain yield. *Crop Sci.* 45:981-987. (4)

92. Liu, W., Tollenaar, M., Stewart, G. and Deen, W. 2004. Impact of planter type, planting speed, and tillage on stand uniformity and yield of corn. *Agron. J.* 96: 1668-1672. (3)
91. Ahmadzadeh, A., Lee, E.A. and Tollenaar, M. 2004. Heterosis for leaf CO<sub>2</sub> exchange rate during the grain-filling period in maize. *Crop Sci.* 44:2095-2100. (7)
90. Tollenaar, M., Ahmadzadeh, A. and Lee, E.A. 2004. Physiological bases of heterosis for grain yield in maize. *Crop Sci.* 44:2086-2094. (19)
89. Echarte, L., Andrade, F.H., Vega, C.R.C. and Tollenaar, M. 2004. Kernel number determination in Argentinean maize hybrids released between 1965 and 1993. *Crop Sci.* 44:1654-1661. (29)
88. Liu, W., Tollenaar, M., Stewart, G. and Deen, W. 2004. Response of corn grain yield to spatial and temporal variability in emergence. *Crop Sci.* 44:847-854. (11)
87. Valentinuz, O. and Tollenaar, M. 2004. Vertical profile of leaf senescence during the grain-filling period in older and newer maize hybrids. *Crop Sci.* 44:827-834. (14)
86. Liu, W., Tollenaar, M., Stewart, G. and Deen, W. 2004. Within-row plant spacing variability does not affect corn yield. *Agron. J.* 96:275-280. (7)
85. Rajcan, I., Agha Alikhani, M., Swanton, C.J. and Tollenaar, M. 2002. Development of redroot pigweed is influenced by light spectral quality and quantity. *Crop Sci.* 42:1930-1936. (14)
84. Lee, E.A., Staebler, M.A. and Tollenaar, M. 2002. Genetic variation in physiological discriminators for cold tolerance - early autotrophic phase of maize development. *Crop Sci.* 42:1919-1929. (16)
83. Ying, J., Lee, E.A. and Tollenaar, M. 2002. Response of leaf photosynthesis during the grain-filling period of maize to duration of cold exposure, acclimation and incident PPFD. *Crop Sci.* 42:1164-1172. (8)
82. Tollenaar, M. and Lee, E.A. 2002. Yield potential, yield stability and stress tolerance in maize. *Field Crops Res.* 75:161-169. (50)
81. Tollenaar, M. 2002. Impact of stress tolerance on yield improvement and stability: physiological investigations from the field to gene level. *Field Crops Res.* 75:95-96.
80. Huang, J.Z., Shrestha, A., Tollenaar, M., Deen, W., Rahimian, H. and Swanton, C.J. 2001. Effect of temperature and photoperiod on the phenological development of common lambsquarters. *Weed Sci.* 49:500-508. (7)
79. Huang, J.Z., Shrestha, A., Tollenaar, M., Deen, W., Rajcan, I., Rahimiyan, H. and Swanton, C.J. 2001. Effect of temperature and photoperiod on the phenological development of wild mustard (*Sinapis arvensis* L.). *Field Crops Res.* 70:75-86. (5)
78. Ying, J., Lee, E.A. and Tollenaar, M. 2000. Response of maize leaf photosynthesis to low temperature during the grain-filling period. *Field Crops Res.* 68:87-96. (18)
77. Huang, J.Z., Shrestha, A., Tollenaar, M., Deen, W., Rahimiyan, H. and Swanton, C.J. 2000. Effect of photoperiod on the phenological development of redroot pigweed (*Amaranthus retroflexus* L.). *Can. J. Plant Sci.* 80:929-938. (12)
76. Swanton, C.J., Huang, J.Z., Shrestha, A., Tollenaar, M., Deen, W. and Rahimiyan, H. 2000. Effects of temperature and photoperiod on the phenological development of barnyard grass. *Agron. J.* 92:1125-1134. (9)
75. Dwyer, L. M., Ma, B. L., de Jong, R. and Tollenaar, M. 2000. Assessing corn seedbed condition for emergence. *Can. J. Soil Sci.* 80:53-61. (8)

74. Swanton, C.J., Huang, J.Z., Deen, W., Tollenaar, M., Shrestha, A. and Rahimiyan, H. 1999. Effects of temperature and photoperiod on *Setaria viridis*. *Weed Sci.* 47:446-453. (8)
73. Tollenaar, M. and Wu, J. 1999. Yield improvement in temperate maize is attributable to greater stress tolerance. *Crop Sci.* 39: 1597-1604. (111)
72. Rajcan, I., Dwyer, L.M. and Tollenaar, M. 1999. Note on relationship between leaf soluble carbohydrate and chlorophyll concentrations in maize during leaf senescence. *Field Crops Res.* 63:13-17. (10)
71. Tollenaar, M. 1999. Duration of the grain-filling period in maize is not affected by photoperiod and incident PPFD during the vegetative phase. *Field Crops Res.* 62:15-21. (17)
70. Earl, H.J. and Tollenaar, M. 1999. Using chlorophyll fluorometry to compare photosynthetic performance of commercial maize (*Zea mays* L.) hybrids in the field. *Field Crops Res.* 61:201-210. (6)
69. Rajcan, I. and Tollenaar, M. 1999. Source:sink ratio and leaf senescence in maize. II. Nitrogen metabolism during grain filling. *Field Crops Res.* 60:255-265. (43)
68. Rajcan, I. and Tollenaar, M. 1999. Source:sink ratio and leaf senescence in maize. I. Dry matter accumulation and partitioning during grain filling. *Field Crops Res.* 60: 245-253. (60)
67. Earl, H.J. and Tollenaar, M. 1998. Relationship between thylakoid electron transport and photosynthetic CO<sub>2</sub> uptake in leaves of three maize (*Zea mays* L.) hybrids. *Photosynth. Res.* 58:245-257. (18)
66. Vyn, T.J. and Tollenaar, M. 1998. Changes in chemical and physical quality parameters of maize grain during three decades of yield improvement. *Field Crops Res.* 59:135-140. (14)
65. Earl, H.J. and Tollenaar, M. 1998. Differences in rates of mature leaf respiration among commercial maize hybrids. *Field Crops Res.* 59:9-19. (10)
64. Ma, B.L., Dwyer, L.M., Tollenaar, M. and Smith, D.L. 1998. Stem infusion of nitrogen-15 to quantify nitrogen remobilization in maize. *Commun. Soil Sci. Plant Anal.* 29:305-317. (3)
63. Nissanka, S.P., Dixon, M.A. and Tollenaar, M. 1997. Canopy gas exchange response to moisture stress in old and new maize hybrid. *Crop Sci.* 37:172-181. (24)
62. Tollenaar, M., Aguilera, A. and Nissanka, S.P. 1997. Grain yield is reduced more by weed interference in an old than in a new maize hybrids. *Agron. J.* 89:239-246. (35)
61. Earl, H.J. and Tollenaar, M. 1997. Maize leaf absorptance of photosynthetically active radiation and its estimation using chlorophyll meter. *Crop Sci.* 37:436-440. (32)
60. Bell, M.J., Tollenaar, M. and Michaels, T.E. 1995. Photosynthetic and respiratory characteristics of peanut genotypes adapted to differing night temperatures. *Peanut Sci.* 22:1-8.
59. Dwyer, L.M., Anderson, A.M., Stewart, D.W. and Tollenaar, M. 1995. Changes in maize hybrid photosynthetic response to leaf nitrogen, pre-anthesis to grain fill. *Agron J.* 87:1221-1225. (11)

58. Dwyer, L.M., Anderson, A.M., Ma, B.L., Stewart, D.W., Tollenaar, M. and Gregorich, E. 1995. Quantifying the nonlinearity on chlorophyll meter response to corn leaf nitrogen concentration. *Can. J. Plant Sci.* 75:179-182. (43)
57. McLachlan, S.M., Murphy, S.D., Tollenaar, M., Weise, S.F. and Swanton, C.J. 1995. Light limitation of reproduction and variation in the allometric relationship between reproductive and vegetative biomass in *Amaranthus retroflexus* (redroot pigweed). *J. Appl. Ecol.* 32:157-165. (17)
56. Bell, M.J., Roy, R.C., Tollenaar, M. and Michaels, T.E. 1994. Importance of variation in chilling tolerance for peanut genotypic adaptation to cool, short-season environments. *Crop Sci.* 34:1030-1039. (10)
55. Bell, M.J., Gillespie, T.J., Roy, R.C., Michaels, T.E. and Tollenaar, M. 1994. Peanut leaf photosynthetic activity in cool environments. *Crop Sci.* 34:1023-1029. (11)
54. Bell, M.J., Michaels, T.E., McCullough, D.E. and Tollenaar, M. 1994. Photosynthetic response to chilling in peanut. *Crop Sci.* 34:1014-1023. (13)
53. Tollenaar, M., Nissanka, S.P., Aguilera, A., Weise, S.F. and Swanton, C.J. 1994. Effect of weed interference and soil nitrogen on four maize hybrids. *Agron. J.* 86:596-601. (45)
52. Tollenaar, M., Dibo, A.A., Aguilera, A., Weise, S.F. and Swanton, C.J. 1994. Effect of crop density on weed interference in maize. *Agron. J.* 86:591-595. (40)
51. McCullough, D.E., Aguilera, A. and Tollenaar, M. 1994. N uptake, N partitioning, and photosynthetic N-use efficiency of an old and a new maize hybrid. *Can. J. Plant Sci.* 74:479-484. (24)
50. McCullough, D.E., Girardin, Ph., Mihajlovic, M., Aguilera, A. and Tollenaar, M. 1994. Influence of N supply on development and dry matter accumulation of an old and new maize hybrid. *Can. J. Plant Sci.* 74:471-477. (44)
49. Ma, B.L., Dwyer, L.M., Stewart, D.W., Andrews, C.J. and Tollenaar, M. 1994. Stem infusion of field-grown maize. *Commun. Soil Sci. Plant Anal.* 25:2005-2017. (10)
48. Girardin, Ph. and Tollenaar, M. 1994. Effects of intraspecific interference on maize leaf azimuth. *Crop Sci.* 34:151-155. (21)
47. McLachlan, S.M., Swanton, C.J., Weise, S.F. and Tollenaar, M. 1993. Effects of corn-induced shading and temperature on rate of leaf appearance in redroot pigweed (*Amaranthus retroflexus* L.). *Weed Sci.* 41:590-593. (27)
46. McLachlan, S.M., Tollenaar, M., Swanton, C.J. and Weise, S.F. 1993. Effect of corn-induced shading on dry matter accumulation, distribution, and architecture of redroot pigweed (*Amaranthus retroflexus*). *Weed Sci.* 41:568-573. (40)
45. Van der Werf, H.M.G. and Tollenaar, M. 1993. The effect of damage to the root system caused by inter-row cultivation on growth of maize. *J. Agron. Crop Sci.* 171:31-35. (1)
44. Tollenaar, M., Mihajlovic, M. and Vyn, T.J. 1993. Corn growth following cover crops: Influence of cereal cultivar, cereal removal, and nitrogen rate. *Agron. J.* 85:251-255. (24)
43. Girardin, Ph. and Tollenaar, M. 1992. Leaf azimuth in maize: Origin and effects of canopy patterns. *Eur. J. Agron.* 1:227-233. (9)
42. Tollenaar, M. 1992. Is low plant density a stress in maize? *Maydica* 37:305-311. (47)
41. Tollenaar, M., Mihajlovic, M. and Vyn, T.J. 1992. Annual phytomass production of a rye-corn double-cropping system in Ontario. *Agron. J.* 84:963-967. (7)

40. Dwyer, L.M., Stewart, D.W. and Tollenaar, M. 1992. Analysis of maize leaf photosynthesis under drought stress. *Can. J. Plant Sci.* 72:477-481. (19)
39. Tollenaar, M. and Aguilera, A. 1992. Radiation use efficiency of an old and a new maize hybrid. *Agron. J.* 84:536-541. (48)
38. Tollenaar, M., Dwyer, L.M. and Stewart, D.W. 1992. Ear and kernel formation in maize hybrids representing three decades of grain yield improvement in Ontario. *Crop Sci.* 32:432-438. (84)
37. Tollenaar, M. and Mihajlovic, M. 1991. Bromoxynil tolerance during the seedling phase is associated with genetic yield improvement in maize. *Can. J. Plant Sci.* 71:1021-1027. (8)
36. Van der Werf, H.M.G., Veen, B.W. and Tollenaar, M. 1991. Xylem exudate yield from detopped maize plants as an estimator of root pruning. *Plant Soil* 134:277-280. (1)
35. Dwyer, L.M., Tollenaar, M. and Houwing, L. 1991. A nondestructive method to monitor leaf greenness in corn. *Can. J. Plant Sci.* 71:505-509. (65)
34. Raimbault, B.A., Vyn, T.J. and Tollenaar, M. 1991. Corn response to rye cover crop, tillage methods, and planter options. *Agron. J.* 83:287-290. (17)
33. Tollenaar, M., Mihajlovic, M. and Aguilera, A. 1991. Temperature response of dry matter accumulation, leaf photosynthesis, and chlorophyll fluorescence in an old and a new maize hybrid during early development. *Can. J. Plant Sci.* 71:353-359. (9)
32. Dwyer, L.M., Tollenaar, M. and Stewart, D.W. 1991. Changes in plant density dependence of leaf photosynthesis of maize (*Zea mays* L.) hybrids, 1959 to 1988. *Can. J. Plant Sci.* 71:1-11. (28)
31. Tollenaar, M. 1991. The physiological basis of the genetic improvement of maize hybrids in Ontario from 1959 to 1988. *Crop Sci.* 31:119-124. (99)
30. Raimbault, B.A., Vyn, T.J. and Tollenaar, M. 1990. Corn response to rye cover crop management and spring tillage systems. *Agron. J.* 82:1088-1093. (27)
29. Tollenaar, M. 1989. Genetic improvement in grain yield of commercial maize hybrids grown in Ontario from 1959 to 1988. *Crop Sci.* 29:1365-1371. (80)
28. Tollenaar, M. 1989. Response of dry matter accumulation in maize to temperature. II. Leaf photosynthesis. *Crop Sci.* 29:1275-1279. (10)
27. Tollenaar, M. 1989. Response of dry matter accumulation in maize to temperature. I. Dry matter partitioning. *Crop Sci.* 29: 1239-1246. (40)
26. Dwyer, L.M. and Tollenaar, M. 1989. Genetic improvement in photosynthetic response of hybrid maize cultivars, 1959 to 1988. *Can. J. Plant Sci.* 69:81-91. (37)
25. Miller, M.H., Walker, G.K., Tollenaar, M. and Alexander, K.G. 1989. Growth and yield of maize (*Zea mays* L.) grown outdoors hydroponically and in soil. *Can. J. Soil Sci.* 69:295-302. (3)
24. Tollenaar, M. and Bruulsema, T.W. 1988. Efficiency of maize dry matter accumulation during periods of complete leaf area expansion. *Agron. J.* 80:580-585. (36)
23. Tollenaar, M. and Bruulsema, T.W. 1988. Effects of temperature on rate and duration of kernel dry matter accumulation of maize. *Can. J. Plant Sci.* 68:935-940. (25)
22. Walker, G.K., Miller, M.H. and Tollenaar, M. 1988. Source-sink limitations of maize grown in an outdoor hydroponic system. *Can. J. Plant Sci.* 68:947-955. (6)

21. Girardin, P., Tollenaar, M., Deltour, A. and Muldoon, J. 1987. Temporary N starvation in maize (*Zea mays* L.): Effects on development, dry matter accumulation and grain yield. *Agronomie* 7:289-296. **(13)**
20. Huner, N.P.A., Migus, W. and Tollenaar, M. 1986. Leaf CO<sub>2</sub> exchange rates in winter rye grown at cold-hardening and non-hardening temperatures. *Can. J. Plant Sci.* 66:443-452. **(25)**
19. Girardin, P., Tollenaar, M. and Deltour, A. 1985. Effect of temporary N starvation in maize on leaf senescence. *Can. J. Plant Sci.* 65:819-829. **(7)**
18. Girardin, P., Tollenaar, M. and Muldoon, J.F. 1985. Temporary N starvation in maize: effects on leaf photosynthetic rate and chlorophyll content. *Can. J. Plant Sci.* 65:491-500. **(16)**
17. Tollenaar, M. and Migus, W. 1984. Dry matter accumulation of maize grown hydroponically under controlled-environment and field conditions. *Can. J. Plant Sci.* 64:475-485. **(26)**
16. Muldoon, J.F., Daynard, T.B., Van Duinen, B. and Tollenaar, M. 1984. Comparisons among rates of appearance of leaf tips, collars, and leaf area in maize (*Zea mays* L.). *Maydica* 29:109-120. **(12)**
15. Tollenaar, M., Muldoon, J.F. and Daynard, T.B. 1984. Differences in rates of leaf appearance among maize hybrids. *Can. J. Plant Sci.* 64:759-763. **(8)**
14. Tollenaar, M. 1983. Potential vegetative productivity in Canada. *Can. J. Plant Sci.* 63:1-10. **(20)**
13. Badu-Apraku, B., Hunter, R.B. and Tollenaar, M. 1983. Effect of temperature during grain filling on whole-plant and grain yield in maize (*Zea mays* L.). *Can. J. Plant Sci.* 63:357-363. **(28)**
12. Tollenaar, M. and Hunter, R.B. 1983. A photoperiod and temperature sensitive period for leaf number of maize. *Crop Sci.* 23:457-460. **(43)**
11. Tollenaar, M. and Daynard, T.B. 1982. Effect of source-sink ratio on dry matter accumulation and leaf senescence of maize. *Can. J. Plant Sci.* 62:855-860. **(38)**
10. Sanderson, J.B., Daynard, T.B. and Tollenaar, M. 1981. Mathematical model of the shape of corn leaves. *Can. J. Plant Sci.* 61:1009-1012. **(15)**
9. Tollenaar, M., Daynard, T.B. and Hunter, R.B. 1979. The effect of temperature on rate of leaf appearance and flowering date in maize. *Crop Sci.* 19:363-366. **(146)**
8. Tollenaar, M. and Daynard, T.B. 1978. Leaf senescence in short-season maize hybrids. *Can. J. Plant Sci.* 58:869-874. **(22)**
7. Tollenaar, M. and Daynard, T.B. 1978. Effect of defoliation on kernel development in maize. *Can. J. Plant Sci.* 58:207-212. **(66)**
6. Tollenaar, M. and Daynard, T.B. 1978. Dry weight, soluble sugar content and starch content of maize kernels during the early postsilking period. *Can. J. Plant Sci.* 58:199-206. **(33)**
5. Tollenaar, M. and Daynard, T.B. 1978. Kernel growth and development at two positions on the ear of maize (*Zea mays* L.). *Can. J. Plant Sci.* 58:189-197. **(70)**
4. Tollenaar, M. and Daynard, T.B. 1978. Relationship between assimilate source and reproductive sink in maize grown in a short-season environment. *Agron. J.* 70:219-223. **(27)**
3. Daynard, T.B., Tollenaar, M. and Edmeades, G.O. 1977. Ontario research on maize physiology. *Ann. Appl. Biol.* 87:245-250. **(10)**

2. Hunter R.B., Tollenaar, M. and Breuer, C.M. 1977. Effects of photoperiod and temperature on vegetative and reproductive growth of a maize (*Zea mays* L.) hybrid. *Can. J. Plant Sci.* 57:1127-1133. (45)
1. Tollenaar, M. 1977. Sink-source relationship during reproductive development in maize. A review. *Maydica* 22:49-75. (162)