Hart, John P., William A. Lovis, M. Anne Katzenberg

2020 Early Maize in Northeastern North America: A Comment on Emerson et. al. (2020). Supplemental File.

Supplemental Table 1. Early AMS dated maize macrobotanical samples in northeastern North America.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Site | Location | Material | Lab Number | 14C age (BP) | Cal. 94.4% (AD)a | Source |
| Icehouse Bottom | Tennessee | kernel | Beta-16576 | 1775±100 | 22-433 (93.0%)461-466 (0.2%)489-532 (2.2%) | Chapman and Crites (1987) |
| Edwin Harness | Ohio | kernel | -- | 1730±85 | 60-435 (89.9%)450-471 (1.4%)487-534 (4.1%) | Crawford et al (1997) |
| Edwin Harness | Ohio | kernel | -- | 1720±105 | 76-548 (95.4% | Crawford et al (1997) |
| Grand Banks | Ontario | cupules | TO-5307 | 1570±90 | 258-285 (2.3%)290-295 (0.3%)322-650 (92.8%) | Crawford et al (1997) |
| Grand Banks | Ontario | cupules | TO-5308 | 1500±150 | 215-780 (92.4%)787-876 (3.0%) | Crawford et al (1997) |
| Ellege | Illinois | cupule | ISGS-A2273 | 1490±20 | 541-623 (95.4) | Simon (2014) |
| Edgar Hoener | Illinoi | kernel | ISGS-A2242 | 1315±20 | 658-715 (75.1%)743-766 (20.3%) | Simon (2014) |
| Meyer | Ontario | cupules | TO-81502 | 1270±100 | 604-980 (95.4%) | Crawford and Smith (2002) |
| Grand Banks | Ontario | cupules | TO-4585 | 1250±80 | 649-906 (88.8%)916-968 (6.6%) | Crawford et al (1997) |
| Deposit Airport 1 | New York | unspecified | -- | 1210±40 | 687-895 (93.7%)928-940 (1.7%) | Knapp (2009) |
| 211-1-1 | New York | kernels | Beta-53452 | 1100±70 | 720-741 (1.3%)766-1043 (93.4%)1105-1118 (0.7%) | Cassedy and Webb (1999) |

aCalibrations performed using OxCal 4.3.2 (Bronk Ramsey 2009) with the IntCal13 atmospheric curve (Reimer et al 2013).

Supplemental Table 2. Early northeastern North America microbotanical remains from directly AMS dated charred cooking residues.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Site | Location | Lab Number | Evidence | 14C age (BP) | Cal. 94.4% a | Source |
| Vinette | New York | ISGS-A0500 | phytoliths | 2270±35 | 401-349 BC (44.6%)314-208 BC (50.8%) | Hart et al. (2007) |
| Place-Royale | Quebec | UGAMS-11656 | phytoliths | 2250±20 | 391-351 BC (34.2%)303-209 BC (61.2%) | Gates St-Pierre & Thompson (2015) |
| Schultz | Michigan | Beta-261456 | starch | 2120±40 | 352-297 BC (10.6%)229-221 BC (0.8%)212-43 BC (84.1%) | Raviele (2010) |
| Winter | Michigan | Beta-237019 | phytoliths | 2090±40 | 333-331 BC (0.2%)204 BC- AD 2 (95.2%) | Albert et al. (2018) |
| Hector-Trudel | Quebec | UGAMS-11654 | phytoliths | 2050±20 | 160-133 BC (6.2%)116 BC-AD 4 (89.2%) | Gates St-Pierre & Thompson (2015) |
| Schultz | Michigan | Beta-261463 | phytoliths | 2050±40 | 174 BC-AD 29 (94.0%)AD 39-49 (1.4%) | Raviele (2010) |
| 20SA1276 | Michigan | Beta-261452 | starch | 2020±40 | 160-133 BC (4.1%)116 BC-AD67 (91.3%) | Raviele (2010) |
| Schultz | Michigan | Beta-262040 | starch | 2000±40 | 111 BC-AD 83 (95.4%) | Raviele (2010) |
| Schultz | Michigan | Beta-261455 | starch | 2000±40 | 111 BC-AD 83 (95.4%) | Raviele (2010) |
| Fortin 2 | New York | ISGS-A0410 | phytoliths | 1995±35 | 91-70 BC (2.5%)61 BC-AD 80 (92.9) | Thompson et al. 2004 |
| Vinette | New York | ISGS-A0455 | phytoliths | 1990±40 | 94 BC-AD 86 (94.5)AD 108-118 (0.9%) | Thompson et al. 2004 |
| 20SA1276 | Michigan | Beta-261452 | starch | 1980±40 | 88-77 BC (1.0%)56 BC-AD 92 (91.0%)AD 98-124 (3.3%) | Raviele (2010) |
| Vinette | New York | ISGS-A0452 | phytoliths | 1940±35 | 37-29 BC (1.2%)23-10 BC (2.4%)3 BC-AD 130 (91.8%) | Thompson et al. 2004 |
| Schultz | Michigan | Beta-262038 | starch | 1940±40 | 45 BC-AD 136 (95.4%) | Raviele (2010) |
| Winter | Michigan | Beta-237017 | phytoliths | 1920±40 | 19-13 BC (0.6%)AD 1-214 (94.8%) | Albert et al. (2018) |
| Cloudman | Michigan | UCIAMS-187416 | starch | 1915±15 | AD 59-127 (95.4%) | Kooiman (2018) |
| Winter | Michigan | Beta-237018 | phytoliths | 1860±40 | AD 64-243 (95.4%) | Albert et al. (2018) |
| Westheimer | New York | ISGS-A0490 | phytoliths | 1600±35 | AD 391-544 (95.4%) | Hart et al. (2007) |
| Felix | New York | ISGS-A0497 | phytoliths | 1575±35 | AD 406-560 (95.4%) | Hart et al. (2007) |
| Fortin 2 | New York | ISGS-A0406 | phytoliths | 1525±35 | AD 427-605 (95.4%) | Thompson et al. 2004 |
| Felix | New York | ISGS-A0503 | phytoliths | 1525±40 | AD 425-611 (95.4%) | Hart et al. (2007) |
| Kipp Island | New York | ISGS-A0225 | phytoliths | 1470±43 | AD 434-454 (2.5%)AD 470-488 (2.5%)AD 534-655 (90.4%) | Hart et al. (2003) |
| Felix | New York | ISGS-A0499 | phytoliths | 1430±40 | AD 558-663 (95.4%) | Hart et al. (2007) |
| Kipp Island | New York | ISGS-A0227 | phytoliths | 1428±41 | AD 556-664 (95.4%) | Hart et al. (2007) |
| Wickham | New York | ISGS-A0190 | phytoliths | 1425±45 | AD 550-668 (95.4%) | Hart et al. (2003) |
| Simmons | New York | ISGS-A0501 | phytoliths | 1390±35 | AD 593-682 (95.4%) | Hart et al. (2007) |
| Hector-Trudel | Quebec | UGAMS-11655 | phytoliths | 1350±20 | AD 646-686 (95.4%) | Gates St-Pierre & Thompson (2015) |
| Felix | New York | ISGS-A0506 | phytoliths | 1315±50 | AD 633-778 (91.5%)AD 791-806 (1.2%)AD 812-826 (1.0%)AD 840-863 (1.7%) | Hart et al. (2007) |
| Hector-Trudel | Quebec | UGAMS-11657 | phytoliths | 1270±20 | AD 680-770 (95.4%) | Gates St-Pierre & Thompson (2015) |
| Hector-Trudel | Quebec | UGAMS-11658 | phytoliths | 1270±25 | AD 670-774 (95.4% | Gates St-Pierre & Thompson (2015) |
| Hunter’s Home | New York | ISGS-A0192 | phytoliths | 1231±44 | AD 675-890 (95.4%) | Hart et al. (2003) |
| Wickham | New York | ISGS-A0191 | phytoliths | 1228±42 | AD 679-890 (95.4%) | Hart et al. (2003) |
| Hunter’s Home | New York | ISGS-A0198 | phytoliths | 1211±46 | AD 681-899 (92.0%)AD 924-946 (3.4%) | Hart et al. (2003) |
| Solms | Michigan | Beta-261451 | starch | 1100±40 | AD 778-790 (1.5%)AD 827-840 (1.1%)AD 865-1022 (92.8%) | Raviele (2010) |
| Street | New York | ISGS-A0229 | phytoliths | 1043±40 | AD 892-1042 (94.4%)AD 1107-1117 (1.0%) | Hart et al. (2007) |

aCalibrations performed using OxCal 4.3.2 (Bronk Ramsey 2009) with the IntCal13 atmospheric curve (Reimer et al 2013).

**REFERENCES CITED**

Albert, Rebecca K., Susan M. Kooiman, Caitlin A. Clark, and William A. Lovis

2018 Earliest Microbotanical Evidence for Maize in the Northern Lake Michigan basin. *American Antiquity* 83: 345–355.

Bronk Ramsey, Christopher

2009 Bayesian Analysis of Radiocarbon Dates. *Radiocarbon* 51:337–360.

Cassedy, Daniel, and Paul Webb.

1999 New Data on the Chronology of Maize Horticulture in Eastern New York and Southern New England. In *Current Northeast Paleoethnobotany*, edited by John P. Hart, pp. 85–100. New York State Museum Bulletin 494. The University of the State of New York, Albany.

Chapman, Jefferson, and Gary D. Crites

1987 Evidence for Early Maize (*Zea mays*) from the Icehouse Bottom site, Tennessee. *American Antiquity* 52: 352–354.

Crawford, Gary W., and David G. Smith

2002 Crawford, G. W., & Smith, D. G. (2002). Early Late Woodland in Southern Ontario: An Update (1996-2000). In *Northeast Subsistence-Settlement Change*, edited by John P. Hart, and Christina B. Rieth, pp. 117–134. New York State Museum Bulletin 496. The University of the State of New York, Albany..

Crawford, Gary W., David G. Smith, and Vandy E. Bowyer

1997 Dating the Entry of Corn (*Zea mays*) into the Lower Great Lakes Region. *American Antiquity* 62: 112–119.

Gates St-Pierre, Christian, and Robert G. Thompson

2015 Phytolith Evidence for the Early Presence of Maize in Southern Quebec. *American Antiquity* 80: 408–415.

Hart, John P., Hetty Jo Brumbach, and Robert Lusteck

2007 Extending the Phytolith Evidence for Early Maize (*Zea mays* ssp. *mays*) and Squash (*Cucurbita* sp.) in Central New York. *American Antiquity* 72: 563–583.

Hart, John P., Robert G. Thompson, and Hetty Jo Brumbach

2003 Phytolith Evidence for Early Maize (*Zea mays*) in the Northern Finger Lakes Region of New York. *American Antiquity* 68: 619–640.

Knapp, Timothy D.

2008 An Unbounded Future? Ceramic Types, ‘‘Cultures,’’ and Scale in Late Prehistoric Research. In *Iroquoian Archaeology and Analytical Scale*, edited by Laurie L. Miroff, and Timothy D. Knapp, pp. 101–130. University of Tennessee Press, Knoxville.

Kooiman, Susan M.

2018 A Multiproxy Analysis of Culinary, Technological, and Environmental Interactions in the Northern Great Lakes Region. Ph.D. dissertation, Department of Anthropology, Michigan State University, East Lansing.

Raviele, Maria E.

2010 Assessing Carbonized Archaeological Cooking Residues: Evaluation of Maize Phytolith Taphonomy and Density Through Experimental Residue Analysis. Ph.D. dissertation, Department of Anthropology, Michigan State University, East Lansing.

Reimer, Paula J, Edouard Bard, Alex Bayliss, J Warren Beck, Paul G Blackwell, Christopher Bronk Ramsey, Caitlin E Buck, Hai Cheng, R Lawrence Edwards, Michael Friedrich, Pieter M Grootes, Thomas P Guilderson, Haflidi Haflidason, Irka Hajdas, Christine Hatté, Timothy J Heaton, Dirk L Hoffmann, Alan G Hogg, Konrad A Hughen, K Felix Kaiser, Bernd Kromer, Sturt W Manning, Mu Niu Ron W Reimer, David A Richards, E Marian Scott, John R Southon, Richard A Staff, Christian S M Turney, and Johannes van der Plicht

2013 IntCal13 and Marine13 Radiocarbon Age Calibration Curves 0–50,000 Years Cal BP. *Radiocarbon* 55: 1869–1887.

Simon, Mary L.

2014 Reevaluating the Introduction of Maize into the American Bottom and Western Illinois. In *Reassessing the Timing, Rate, and Adoption Trajectories of Domesticate Use in the Midwest and Great Lakes*, edited by Maria E. Raviele and William A. Lovis, pp. 93–134. Occasional Papers 1, Midwest Archaeological Conference, Inc., Champaign, Illinois.

Thompson, Robert G., John P. Hart, Hetty Jo Brumbach and Robert Lusteck

2004 Phytolith Evidence for Twentieth-Century B.P. Maize in Northern Iroquoia. *Northeast Anthropology* 68:25–40.