Wheat seed (*Triticum aestivum* L.) radiocarbon concentration over the last 75 years: Supplements

Table S1. Measured radiocarbon concentration in annual Gatersleben wheat harvest between 1946-2020. Final errors are the larger of either error of the weighted mean ($σ1\_{\overbar{x}}^{2}=\frac{1}{\sum\_{i=1}^{n}\frac{1}{σ\_{i}^{2}}}$) or the standard error ($σ2\_{\overbar{x}}^{2}=\frac{\sum\_{i=1}^{n}\frac{(x\_{i}-x\_{mean})^{2}}{σ\_{i}^{2}}}{(n-1)\sum\_{i=1}^{n}\frac{1}{σ\_{i}^{2}}}$) (see main text). Date is the last day of the periods April-June (winter type) or May-July (spring type).

| **Lab. ID** | **Sample ID** | **crop type** | **Date** | **F14C**  | **1 σ** | **∆14C (‰)**  | **1 σ** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 55167 | TRI 261 / 1946 | winter type | 15.5.46 | 0.9542 | 0.0019 | -45.4 | 1.9 |
| 55168 | TRI 1291 / 1947 | winter type | 15.5.47 | 0.9697 | 0.0021 | -30.0 | 2.1 |
| 55169 | TRI 653 / 1948 | spring type | 15.6.48 | 0.9683 | 0.0033 | -31.5 | 3.9 |
| 55170 | TRI 2060 / 1949 | spring type | 15.6.49 | 0.9689 | 0.0019 | -31.0 | 1.9 |
| 55171 | TRI 4102 / 1950 | spring type | 15.6.50 | 0.9633 | 0.0019 | -36.7 | 1.9 |
| 55172 | TRI 4244 /1951 | winter type | 15.5.51 | 0.9660 | 0.0023 | -34.2 | 2.3 |
| 55173 | TRI 4131 / 1952 | spring type | 15.6.52 | 0.9636 | 0.0023 | -36.6 | 2.7 |
| 55174 | TRI 4272 / 1953 | winter type | 15.5.53 | 0.9620 | 0.0026 | -38.4 | 2.6 |
| 55175 | TRI 4166 / 1954 | spring type | 15.6.54 | 0.9724 | 0.0023 | -28.1 | 2.3 |
| 55176 | TRI 2680 / 1955 | spring type | 15.6.55 | 0.9998 | 0.0021 | -0.8 | 2.1 |
| 55177 | TRI 4399 / 1956 | spring type | 15.6.56 | 1.0366 | 0.0036 | 35.9 | 3.6 |
| 55178 | TRI 6307 / 1957 | spring type | 15.6.57 | 1.0729 | 0.0049 | 72.0 | 4.9 |
| 55179 | TRI 4420 / 1958 | spring type | 15.6.58 | 1.1461 | 0.0026 | 145.0 | 2.6 |
| 55180 | TRI 4896 / 1959 | spring type | 15.6.59 | 1.2866 | 0.0037 | 285.6 | 3.7 |
| 55181 | TRI 4925 / 1960 | spring type | 15.6.60 | 1.2292 | 0.0027 | 227.8 | 2.7 |
| 55182 | TRI 6451 / 1961 | winter type | 15.5.61 | 1.2196 | 0.0028 | 218.0 | 2.8 |
| 55183 | TRI 6315 / 1962 | spring type | 15.6.62 | 1.3935 | 0.0029 | 391.5 | 2.9 |
| 55184 | TRI 6886 / 1963 | winter type | 15.5.63 | 1.8617 | 0.0030 | 858.9 | 3.0 |
| 55104 | TRI 7309 / 1964 | spring type | 15.6.64 | 1.9115 | 0.0031 | 908.3 | 3.1 |
| 55105 | TRI 7461 / 1965 | winter type | 15.5.65 | 1.7815 | 0.0024 | 778.3 | 2.4 |
| 55106 | TRI 7504 / 1966 | spring type | 15.6.66 | 1.6956 | 0.0026 | 692.3 | 2.6 |
| 55107 | TRI 8306 / 1967 | spring type | 15.6.67 | 1.6171 | 0.0023 | 613.8 | 2.3 |
| 55108 | TRI 8473 / 1968 | winter type | 15.5.68 | 1.5538 | 0.0024 | 550.4 | 2.4 |
| 55109 | TRI 9364 / 1969 | winter type | 15.5.69 | 1.5544 | 0.0022 | 550.8 | 2.2 |
| 55110 | TRI 9757 / 1970 | spring type | 15.6.70 | 1.5371 | 0.0041 | 533.4 | 4.1 |
| 55111 | TRI 9821 / 1971 | winter type | 15.5.71 | 1.5104 | 0.0022 | 506.6 | 2.2 |
| 55112 | TRI 9951 / 1972 | spring type | 15.6.72 | 1.4612 | 0.0022 | 457.3 | 2.2 |
| 55113 | TRI 10331 / 1973 | spring type | 15.6.73 | 1.4267 | 0.0023 | 422.7 | 2.3 |
| 55114 | TRI 10839 / 1974 | winter type | 15.5.74 | 1.4166 | 0.0036 | 412.5 | 3.6 |
| 55115 | TRI 11280 / 1975 | winter type | 15.5.75 | 1.3799 | 0.0022 | 375.7 | 2.2 |
| 55116 | TRI 11405 / 1976 | spring type | 15.6.76 | 1.3450 | 0.0035 | 340.8 | 3.5 |
| 55117 | TRI 11802 / 1977 | winter type | 15.5.77 | 1.3377 | 0.0027 | 333.3 | 2.7 |
| 55118 | TRI 11935 / 1978 | winter type | 15.5.78 | 1.3225 | 0.0020 | 318.0 | 2.0 |
| 55119 | TRI 12816 / 1979 | winter type | 15.5.79 | 1.2975 | 0.0028 | 292.9 | 2.79 |
| 55120 | TRI 12913 / 1980 | winter type | 15.5.80 | 1.2811 | 0.0023 | 276.5 | 2.3 |
| 55121 | TRI 12950 / 1981 | winter type | 15.5.81 | 1.2638 | 0.0033 | 259.1 | 3.3 |
| 55122 | TRI 13179 / 1982 | spring type | 15.6.82 | 1.2416 | 0.0022 | 236.8 | 2.2 |
| 55123 | TRI 13243 / 1983 | winter type | 15.5.83 | 1.2291 | 0.0022 | 224.2 | 2.2 |
| 55124 | TRI 13410 / 1984 | spring type | 15.6.84 | 1.2167 | 0.0032 | 211.7 | 3.2 |
| 55125 | TRI 15001 / 1985 | spring type | 15.6.85 | 1.2037 | 0.0023 | 198.6 | 2.3 |
| 55126 | TRI 14398 / 1986 | spring type | 15.6.86 | 1.1924 | 0.0022 | 187.2 | 2.2 |
| 55127 | TRI 15170 / 1987 | winter type | 15.5.87 | 1.1799 | 0.0033 | 174.6 | 3.3 |
| 55128 | TRI 16094 / 1988 | winter type | 15.5.88 | 1.1697 | 0.0022 | 164.4 | 2.2 |
| 55129 | TRI 16153 / 1989 | spring type | 15.6.89 | 1.1622 | 0.0024 | 156.7 | 2.4 |
| 55130 | TRI 16569 / 1990 | winter type | 15.5.90 | 1.1466 | 0.0021 | 141.0 | 2.1 |
| 55131 | TRI 16697 / 1991 | winter type | 15.5.91 | 1.1443 | 0.0022 | 138.6 | 2.3 |
| 55132 | TRI 16567 / 1992 | winter type | 15.5.92 | 1.1324 | 0.0034 | 126.7 | 3.4 |
| 55133 | TRI 16753 / 1993 | winter type | 15.5.93 | 1.1266 | 0.0023 | 120.7 | 2.3 |
| 55134 | TRI 16750 / 1994 | winter type | 15.5.94 | 1.1296 | 0.0026 | 123.6 | 2.6 |
| 55135 | TRI 17653 / 1995 | spring type | 15.6.95 | 1.1142 | 0.0021 | 108.2 | 2.2 |
| 55136 | TRI 17731 / 1996 | spring type | 15.6.96 | 1.1134 | 0.0022 | 107.2 | 2.2 |
| 55137 | TRI 17859 / 1997 | spring type | 15.6.97 | 1.1076 | 0.0044 | 101.3 | 4.4 |
| 55138 | TRI 17893 / 1998 | intermediate (winter) | 15.5.98 | 1.1038 | 0.0040 | 97.5 | 4.0 |
| 55139 | TRI 17733 / 1999 | winter type | 15.5.99 | 1.0942 | 0.0023 | 87.7 | 2.3 |
| 54966 | TRI 18292 / 2000 | spring type | 15.6.00 | 1.0888 | 0.0025 | 82.2 | 2.5 |
| 54967 | TRI 18810 /2001 | spring type | 15.6.01 | 1.0842 | 0.0036 | 77.5 | 3.6 |
| 54968 | TRI 18884 / 2002 | spring type | 15.6.02 | 1.0780 | 0.0022 | 71.2 | 2.2 |
| 54969 | TRI 19297 / 2003 | spring type | 15.6.03 | 1.0722 | 0.0021 | 65.4 | 2.1 |
| 54970 | TRI 19328 / 2004 | spring type | 15.6.04 | 1.0664 | 0.0035 | 59.5 | 3.5 |
| 54971 | TRI 217 / 2005 | winter type | 15.5.05 | 1.0607 | 0.0021 | 53.7 | 2.1 |
| 54972 | TRI 19454 / 2006 | winter type | 15.5.06 | 1.0567 | 0.0018 | 49.6 | 1.8 |
| 54973 | TRI 21371 / 2007 | winter type | 15.5.07 | 1.0543 | 0.0018 | 47.1 | 1.8 |
| 54974 | TRI 10191 / 2008 | winter type | 15.5.08 | 1.0492 | 0.0035 | 41.9 | 3.5 |
| 54975 | TRI 21554 / 2009 | spring type | 15.6.09 | 1.0508 | 0.0020 | 43.4 | 2.0 |
| 54976 | TRI 4549 / 2010 | spring type | 15.6.10 | 1.0363 | 0.0020 | 28.8 | 2.0 |
| 54977 | TRI 29527 / 2011 | winter type | 15.5.11 | 1.0363 | 0.0020 | 28.7 | 2.0 |
| 54978 | TRI 29837 / 2012 | winter type | 15.5.12 | 1.0315 | 0.0021 | 23.8 | 2.1 |
| 54979 | TRI 29772 / 2013 | spring type | 15.6.13 | 1.0299 | 0.0019 | 22.1 | 1.9 |
| 54980 | TRI 30040 / 2014 | winter type | 15.5.14 | 1.0230 | 0.0021 | 15.1 | 2.1 |
| 54981 | TRI 29570 / 2015 | winter type | 15.5.15 | 1.0223 | 0.0023 | 14.3 | 2.3 |
| 54982 | TRI 29840 / 2016 | winter type | 15.5.16 | 1.0204 | 0.0021 | 12.3 | 2.1 |
| 54983 | TRI 29985 / 2017 | winter type | 15.5.17 | 1.0138 | 0.0023 | 5.6 | 2.3 |
| 54984 | TRI 1003 / 2018 | winter type | 15.5.18 | 1.0068 | 0.0021 | -1.4 | 2.1 |
| 54985 | TRI 5603 / 2019 | spring type | 15.6.19 | 1.0073 | 0.0021 | -1.1 | 2.1 |
| 55357 | TRI 4551 / 2020 | spring type | 15.6.20 | 1.0098 | 0.0017 | 1.3 | 1.7 |



Supplement Figure S1 : 14C concentration of Gatersleben-wheat-tissue between 1945 – 1970. Red circles give annual detonation yield of atmospheric nuclear tests ( Bergkvist and Ferm 2000).

Figure S 1. 14C concentration of Gatersleben-wheat-tissue ((green asterisks)) between 1945 – 1971 and the NH1 dataset (Hua et al. 2013). Red bars give annual detonation yield of atmospheric nuclear tests (data from: Bergkvist and Ferm 2000; UNSCEAR\_AnnexC 2000). In addition, radiocarbon data from tree-rings (Norway) and wine (Slovakia), discussed in the main text, are shown (Svarva et al 2019, Povinec et al 2020).



Figure S 2. 14C concentration of Gatersleben-wheat-tissue (black asterisks) between 1986 – 2020 in comparison to the NH1 dataset (Hua et al. 2013), Jungfraujoch (Emmenegger et al. 2020; Hammer and Levin 2017; Levin et al. 2008; Levin and Kromer 2004), honey from Hungary (Varga et al 2020), maize-leaves from northern Netherlands (Bozhinova et al. 2016), and wine from Slovakia (Povinec et al. 2020).

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