Table S4. Sites with evidence for the spread of millets (and rice) into Western China, Tibet, Central Asia, Southeast Asia, the Russian Far East, Korea and Japan

Site	Province	Local Script	Culture	C14 Material	Code	Date	Error	Date	Cal. Start	Cal. Finish	Median	Calibrated 2 sigma	Comments	Crops	References
NORTHWEST SPREAD INTO CENTRAL ASIA															
Hurere	Qinghai	胡热热	Yangshao	Panicum	BA120182	4530	60	4530±60	3500	3020	3260	3500-3020 cal. BC		Setaria and Panicum	Chen et al. (2015)
Gayixiangjing	Qinghai	尕夷乡?	Majiayao	Setaria	Beta-297655	4410	40	4410±40	3330	2910	3120	3330-2910 cal. BC		Setaria and Panicum	Chen et al. (2015)
Gayixiangjing	Qinghai	尕夷乡?	Majiayao	Setaria	BA110899	4370	25	4370±25	3090	2910	3000	3090-2910 cal. BC		Setaria and Panicum	Chen et al. (2015)
Lajia	Qinghai	喇家	Early-mid Majiayao	Charcoal	LUG10-58	4408	55	4408±55	3340	2900	3120	3340-2900 cal. BC		Setaria	Dong et al. (2013); Liu et al. (2008 site 53, pp. 166)
Hongtjiaozi	Qinghai	?	Majiayao	Setaria	BA110889	4395	30	4395±30	3100	2910	3005	3100-2910 cal. BC		Setaria and Panicum	Chen et al. (2015)
Luowalinchang	Qinghai	洛哇林场	Majiayao	Setaria	Beta-24458	4110	30	4110±30	2870	2570	2720	2870-2570 cal. BC		Setaria and Panicum	Chen et al. (2015)
Yuanyangchi	NW Gangsu	鸳鸯池	Manchang/?Banshan	No Date					2400	2000	2200	est 2400-2000 BC	Wheat is absent and not recorded from this site	Setaria	Liu et al. (2008)
Xihetan	NW Gangsu	西河滩	Majiayao (Machang type)	No Date					2300	2000	2150	est. 2300-2000 BC	Wheat is absent and not recorded from this site	Mainly Panicum some Setaria	Zhou et al. (2012); Zhou et al. (2016); Dodson et al. (2013)
Huoshiliang	North Gansu	火石梁	Siba Culture	Triticum grain	OZK603	3636	44	3636±44	2135	1895	2015	est. 2135-1895 BC	Earliest secure date for wheat within China	Triticum, ?Hordeum, Panicum, Setaria	Dodson et al. (2013)
Xiaohe Cemetry	Xingjiang	小河墓地	Xintala	Millet seed	BA05804	3545	40	3545±40	2020	1750	1885	2020-1750 cal. BC	N.B. Only dates on plant remains are presented here. Dates cited within Yang et al. (2014) are at the 5730 h.l. The dates given here follow Flad et al. (2010) and use the 5568 h.l.	Triticum and Panicum	Flad et al. (2010); Li J-F et al. (2013); Yang et al. (2014)
Xiaohe Cemetry	Xingjiang	小河墓地	Xintala	Wheat grain	BA05803	3375	40	3375±40	1770	1530	1650	1770-1530 cal. BC	As above	Triticum and Panicum	Flad et al. (2010); Li J-F et al. (2013); Yang et al. (2014)
Xiaohe Cemetry	Xingjiang	小河墓地	Xintala	Wheat grain	BA05794	3305	40	3305±40	1690	1500	1595	1690-1500 cal. BC	As above	Triticum and Panicum	Flad et al. (2010); Li J-F et al. (2013); Yang et al. (2014)
Xiaohe Cemetry	Xingjiang	小河墓地	Xintala	Millet seed	BA05795	3200	40	3200±40	1610	1400	1505	1610-1400 cal. BC	As above	Triticum and Panicum	Flad et al. (2010); Li J-F et al. (2013); Yang et al. (2014)
Xiaohe Cemetry	Xingjiang	小河墓地	Xintala	Millet seed	BA05796	3290	40	3290±40	1670	1450	1560	1670-1450 cal. BC	As above	Triticum and Panicum	Flad et al. (2010); Li J-F et al. (2013); Yang et al. (2014)
Xiaohe Cemetry	Xingjiang	小河墓地	Xintala	Wheat grain	BA05791	3225	30	3225±30	1610	1420	1515	1610-1420 cal. BC	As above	Triticum and Panicum	Flad et al. (2010); Li J-F et al. (2013); Yang et al. (2014)
Xiaohe Cemetry	Xingjiang	小河墓地	Xintala	Millet seed	BA05793	3240	40	3240±40	1620	1430	1525	1620-1430 cal. BC	As above	Triticum and Panicum	Flad et al. (2010); Li J-F et al. (2013); Yang et al. (2014)
Xintala	Xingjiang	新塔拉	Xintala	wheat grain	OZM451	3435	35	3435±35	1880	1640	1760	1880-1640 cal. BC		Triticum, Hordeum and Panicum	Dodson et al. (2013); Zhao et al. (2013); Debaine-Francfort (1988)
Xintala	Xingjiang	新塔拉	Xintala	wheat grain	OZK663	3430	50	3430±50	1890	1620	1755	1890-1620 cal. BC		Triticum, Hordeum and Panicum	Dodson et al. (2013); Zhao et al. (2013); Debaine-Francfort (1988)
Xintala	Xingjiang	新塔拉	Xintala	wheat grain	OZK662	3435	50	3435±50	1890	1630	1760	1890-1630 cal. BC		Triticum, Hordeum and Panicum	Dodson et al. (2013); Zhao et al. (2013); Debaine-Francfort (1988)
Xintala	Xingjiang	新塔拉	Xintala	wheat grain	OZL437	3515	50	3515±50	1980	1690	1835	1980-1690 cal. BC		Triticum, Hordeum and Panicum	Dodson et al. (2013); Zhao et al. (2013); Debaine-Francfort (1988)
Begash 1a	Kazakhstan	Бесагаш	Middle Bronze Age	millet and wheat	Beta-266458	3840	40	3840±40	2470	2150	2310	2470-2150 cal. BC	Dates are earliest for Panicum within Central Asia	Triticum and Panicum	Frachetti et al. (2010); Spengler et al. (2014)
Begash 1a	Kazakhstan	Бесагаш	Middle Bronze Age	wood charcoal	Beta-266459	3760	40	3760±40	2300	2030	2165	2300-2030 cal. BC	As above	Triticum and Panicum	Frachetti et al. (2010); Spengler et al. (2014)
Begash 1a	Kazakhstan	Бесагаш	Middle Bronze Age	wood charcoal	Beta-266460	3740	40	3740±40	2290	2020	2155	2290-2020 cal. BC	As above	Triticum and Panicum	Frachetti et al. (2010); Spengler et al. (2014)
Begash 1a	Kazakhstan	Бесагаш	Middle Bronze Age	wood charcoal	Beta-266457	3720	40	3720±40	2280	1980	2130	2280-1980 cal. BC	As above	Triticum and Panicum	Frachetti et al. (2010); Spengler et al. (2014)
Tasbas 2a	Kazakhstan	Тасбас	Late Bronze Age	wood charcoal	OS-93053	3150	35	3150±35	1510	1300	1405	1510-1300 cal. BC	Dates are earliest for Setaria within Central Asia	Triticum, Hordeum, Panicum, Setaria	Spengler et al. (2014)
Tasbas 2a	Kazakhstan	Тасбас	Late Bronze Age	barley	OS-92277	3090	40	3090±40	1440	1230	1335	1440-1230 cal. BC	As above	Triticum, Hordeum, Panicum, Setaria	Spengler et al. (2014)
Tasbas 2a	Kazakhstan	Тасбас	Late Bronze Age	barley	OS-91990	3030	35	3030±35	1410	1130	1270	1410-1130 cal. BC	As above	Triticum, Hordeum, Panicum, Setaria	Spengler et al. (2014)
SOUTHWEST CHINA: SICHUAN, YUNNAN															
Haxiu	Sichuan	哈休	Pre-Baodun	No date					3300	2700	3000	est. 3300-3000 BC	As with Yingpanshan only millets with initial agricultural spread	Setaria, Panicum	D'Alpoim Guedes 2011; Zhao 2008
Yingpanshan	Sichuan	营盘山	Pre-Baodun - Majiayao	no date recorded					3500	2700	3100	3500-2700 cal. BC	As above only millets with initial spread	Setaria, Panicum	Zhao ZJ and Chen J (2011)
Guiyuanqiao	Sichuan	桂圆桥	Pre-Baodun	No date					3000	2700	2850	3000-2700 cal. BC	No rice is reported from this earlier site	Setaria, Panicum	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110058	4060	30	4060±30	2840	2480	2660	2840-2480 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110062	4015	35	4015±35	2630	2460	2545	2630-2460 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110049	4010	50	4010±50	2840	2340	2590	2840-2340 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110061	4005	30	4005±30	2580	2460	2520	2580-2460 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110059	4000	30	4000±30	2580	2460	2520	2580-2460 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110047	3890	35	3890±35	2480	2230	2355	2480-2230 cal. BC	Earliest secure date for rice within Sichuan	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110060	3885	30	3885±30	2470	2280	2375	2470-2280 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA111215	3840	25	3840±25	2460	2200	2330	2460-2200 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110048	3830	30	3830±30	2460	2150	2305	2460-2150 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110052	3830	30	3830±30	2460	2150	2305	2460-2150 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA111219	3735	20	3735±20	2210	2040	2125	2210-2040 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110050	3730	30	3730±30	2270	2030	2150	2270-2030 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Baodun	Sichuan	宝墩	Baodun Phase 1	rice grain	BA110051	3705	30	3705±30	2200	1980	2090	2200-1980 cal. BC	As above	Oryza, Setaria	d'Alpoim Guedes and Butler (2014); d'Alpoim et al. (2013b)
Changdu Karuo/Qamdo Karub	Tibet	昌都卡若 ཆབ་མདོ་མཁར་རོ་	Karuo	Foxtail Millet	BA111228	4115	25	4115±25	2870	2570	2720	2870-2570 cal. BC	Dates on short-lived material were conducted by d'Alpoim Guedes et al. 2014.	Mainly Setaria/some Panicum	d'Alpoim et al. 2014; d'Alpoim Guedes and Butler (2014); CPAM and Sichuan University (1985)
Changdu Karuo/Qamdo Karub	Tibet	昌都卡若 ཆབ་མདོ་མཁར་རོ་	Karuo	Foxtail Millet	BA111229	3995	25	3995±25	2580	2460	2520	2580-2460 cal. BC	Dates on short-lived material were conducted by d'Alpoim Guedes et al. 2014.	Mainly Setaria/some Panicum	d'Alpoim et al. 2014; d'Alpoim Guedes and Butler (2014); CPAM and Sichuan University (1985)
Changdu Karuo/Qamdo Karub	Tibet	昌都卡若 ཆབ་མདོ་མཁར་རོ་	Karuo	Broomcorn millet	Beta325960	3980	40	3980±40	2620	2340	2480	2620-2340 cal. BC	Dates on short-lived material were conducted by d'Alpoim Guedes et al. 2014.	Mainly Setaria/some Panicum	d'Alpoim et al. 2014; d'Alpoim Guedes and Butler (2014); CPAM and Sichuan University (1985)
Changdu Karuo/Qamdo Karub	Tibet	昌都卡若 ཆབ་མདོ་མཁར་རོ་	Karuo	Foxtail Millet	BA111226	3910	25	3910±25	2480	2300	2390	2480-2300 cal. BC	Dates on short-lived material were conducted by d'Alpoim Guedes et al. 2014.	Mainly Setaria/some Panicum	d'Alpoim et al. 2014; d'Alpoim Guedes and Butler (2014); CPAM and Sichuan University (1985)
Changdu Karuo/Qamdo Karub	Tibet	昌都卡若 ཆབ་མདོ་མཁར་རོ་	Karuo	Indet. Seed	BA111231	3895	25	3895±25	2470	2290	2380	2470-2290 cal. BC	Dates on short-lived material were conducted by d'Alpoim Guedes et al. 2014.	Mainly Setaria/some Panicum	d'Alpoim et al. 2014; d'Alpoim Guedes and Butler (2014); CPAM and Sichuan University (1985)
Baiyangcun	Yunnan	白羊村	Baiyangcun Culture	charcoal	ZK-0220	3660	85	3660±85	2290	1860	2075	2290-1860 cal. BC	Date in Yao (2010) is at the 5730 h.l., that within Rispolli (2007) gives both 5730 and 5568 h.l.	Oryza, Panicum and Setaria	Yong and Yunnan Prov. Museum (1981); Dal Martello et al. (in prep.); Rispoli (2007)
Baiyangcun	Yunnan	白羊村	Baiyangcun Culture	charcoal	ZK-0330	3570	85	3570±85	2190	1690	1940	2190-1690 cal. BC	As above	Oryza, Panicum and Setaria	Yong and Yunnan Prov. Museum (1981); Dal Martello et al. (in prep.); Rispoli (2007)
Dadunzi	Yunnan	大墩子		charcoal	ZK-0229	3119	90	3119±90	1620	1120	1370	1620-1120 cal. BC	Date in Yao (2010) and in Zhang and Hung (2010) are likely to be 5730 h.l. and the calibrated date from Rispoli (2007) implies this. Converted here to 5568 h.l.	Oryza, Panicum and Setaria	Jin H. et al. (2014)
Haimenkou	Yunnan	海门口	Neolithic (T1003-10-S1)	rice grain	BA-	3380	25	3380±25	1750	1620	1685	1750-1620 cal. BC	Rice and Foxtail millet present in earliest levels	Oryza, Setaria	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Neolithic (T1003-9-S2)	rice grain	BA-	3275	35	3275±35	1640	1450	1545	1640-1450 cal. BC	As above	Oryza, Setaria	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Neolithic (T1003-9-S2)	millet grains (*Setaria italica x3)*	BA-	3230	40	3230±40	1620	1420	1520	1620-1420 cal. BC	As above	Oryza, Setaria	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Neolithic (T1003-8-S2)	millet grains (*Setaria italica x3)*	BA-	3275	35	3275±35	1640	1450	1545	1640-1450 cal. BC	As above	Oryza, Setaria	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Neolithic (T1003-8-S2)	rice grain	BA-	3250	35	3250±35	1620	1440	1530	1620-1440 cal. BC	As above	Oryza, Setaria	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Neolithic (T1003-8-S2)	wheat grain	BA-	3105	25	3105±25	1440	1290	1365	1440-1290 cal. BC	Early date on wheat for Yunnan	Oryza, Setaria, Triticum	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Neolithic (T1003-8-S2)	Chenopodium seeds	BA-	3065	25	3065±25	1410	1260	1335	1410-1260 cal. BC	Early date for Chenopodium	Oryza, Setaria, Chenopodium	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Bronze Age (T1003-7-S2)	rice grain	BA-	3240	40	3240±40	1620	1430	1525	1620-1430 cal. BC		Oryza, Setaria	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Bronze Age (T1003-7-S3)	millet grain	BA-	3210	30	3210±30	1600	1410	1505	1600-1410 cal. BC		Oryza, Setaria	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Bronze Age (T1005-7-S1)	Chenopodium seeds	BA-	3170	25	3170±25	1500	1410	1455	1500-1410 cal. BC	Early date for Chenopodium	Oryza, Setaria	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Bronze Age (T1005-7-S1)	wheat grain	BA-	3125	30	3125±30	1500	1290	1395	1500-1290 cal. BC	Eariest date on wheat in Yunnan although this grain came from the level above 8 in which wheat is recorded above	Oryza, Panicum, Setaria, Glycine, Triticum, Cannabis, Fagopyrum	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Bronze Age (T1005-7-S2)	wheat grain	BA-	3095	30	3095±30	1430	1270	1350	1430-1270 cal. BC	Early date on wheat	As above	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Bronze Age (T1004-7-S6)	rice grain	BA-	3075	35	3075±35	1430	1230	1330	1430-1230 cal. BC	Wheat, foxtail millet, broomcorn millet and rice common, with Cannabis all well established as crops in this phase	As above	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Bronze Age (T1003-7-S2)	wheat grain	BA-	3060	35	3060±35	1420	1220	1320	1420-1220 cal. BC	As above	As above	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Bronze Age (T1003-6-S2)	Chenopodium seeds	BA-	3080	25	3080±25	1420	1270	1345	1420-1270 cal. BC	As above	As above	Li and Min (2014); Yue (2010); Jin H (2014)
Haimenkou	Yunnan	海门口	Bronze Age (T1004-6-S3)	millet grains (*Setaria italica x3)*	BA-	3050	30	3050±30	1410	1220	1315	1410-1220 cal. BC	As above	As above	Li and Min (2014); Yue (2010); Jin H (2014)
Haimenkou	Yunnan	海门口	Bronze Age (T1004-6-S3)	bean (*Glycine*)	BA-	3045	40	3045±40	1420	1130	1275	1420-1130 cal. BC	Early date for Soya bean. Crops as above	As above	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Bronze Age (T1003-6-S1)	wheat grain	BA-	3000	35	3000±35	1390	1120	1255	1390-1120 cal. BC	As above	As above	Xue (2010); Jin H (2014); D'Alpoim Guedes and Butler (2014); Xiao (1995)
Haimenkou	Yunnan	海门口	Bronze Age (T1003-6-S2)	wheat grain	BA-	2975	45	2975±45	1390	1040	1215	1390-1040 cal. BC	As above	As above	Li and Min (2014); Yue Y (2010); Jin H (2014)

Site	Province	Local Script	Culture	C14 Material	Code	Date	Error	Date	Cal. Start	Cal. Finish	Median	Calibrated 2 sigma	Comments	Crops	References
Haimenkou	Yunnan	海门口	Bronze Age (T1005-6-S4)	rice grain	BA-	2960	25	2960±25	1270	1050	1160	1270-1050 cal. BC	As above	As above	Li and Min (2014); Yue Y (2010); Jin H (2014)
Haimenkou	Yunnan	海门口	Bronze Age (T1004-5-S6)	millet (*Setaria italica x3)*	BA-	2435	30	2435±30	760	400	580	760-400 cal. BC	Dates are from later phase	As above	Li and Min (2014); Yue Y (2010); Jin H (2014)
Haimenkou	Yunnan	海门口	Bronze Age (T1003-5-S2)	wheat grain	BA-	2445	35	2445±35	760	400	580	760-400 cal. BC	As above	As above	Li and Min (2014); Yue Y (2010); Jin H (2014)
Haimenkou	Yunnan	海门口	Bronze Age (T1005-4-S1)	rice grain	BA-	2400	20	2400±20	540	400	470	540-400 cal. BC	As above	As above	Li and Min (2014); Yue Y (2010); Jin H (2014)
Haimenkou	Yunnan	海门口	Bronze Age (T1003-4-S2)	wheat grain	BA-	2405	35	2405±35	750	390	570	750-390 cal. BC	As above	As above	Li and Min (2014); Yue Y (2010); Jin H (2014)
Shifodong	Yunnan	石佛洞		Date available but could not be obtained					1450	850	1150	1450-850 cal. BC	Occurrence of rice and foxtail millet from earliest levels. Radiocarbon dating was conducted on the site and are available in the main site report but the authors have been unable to obtain this information.	Setaria and Oryza	Zhao (2010); Jin H. et al. (2014); Liu and Dai (2008); Li, H. et al. (2016)
Gantuoyan	Guangxi	感驮岩	Contemporary with Late Shang	rice grain	DY-1014	3365	50	3365±50	1860	1510	1685	1860-1510 cal. BC	It is unclear if the dates quoted by Zhang and Hung (2010) are at the 5730 h.l. However, as the majority of the dates where this can be checked used the 5730 h.l. those shown here have also been corrected to the 5568 h.l. NB. this site is often mispelt as Gantouyan.	Oryza, Panicum and Setaria	Zhang and Hung (2010); GZARAT and Napo Museum (2003)
Gantuoyan	Guangxi	感驮岩	Contemporary with Late Shang	millet grain	DY-D1015	3042	50	3042±50	1430	1120	1275	1430-1120 cal. BC	As above	Oryza, Panicum and Setaria	Zhang and Hung (2010); ATGZ & Napo Museum 2003
Gantuoyan	Guangxi	感驮岩	Contemporary with Late Shang	rice grain	DY-1013	2801	50	2801±50	1110	830	970	1110-830 cal. BC	As above	Oryza, Panicum and Setaria	Zhang and Hung (2010); ATGZ & Napo Museum 2003
Mainland South China Coast (Spread of Rice without millets)															
Tanshishan	Fujian	昙石山	Tanishan Culture	charcoal	BA-04294	4120	30	4120±30	2870	2570	2720	2870-2570 cal. BC	These charcoal dates appear significantly older than the original dates below but are internally consistent and therefore seen as reliable.	Oryza sativa. Noted to be in low numbers and hunting/shellfish still seen as more important	Fujian Provincial Museum (2010); Ma et al. (2016); Jiao (2013)
Tanshishan	Fujian	昙石山	Tanishan Culture	charcoal	BA-04295	4095	30	4095±30	2870	2500	2685	2870-2500 cal. BC	As above	Oryza sativa	Fujian Provincial Museum (2010); Ma et al. (2016); Jiao (2013)
Tanshishan	Fujian	昙石山	Tanishan Culture	charcoal	BA-04299	4095	40	4095±40	2870	2490	2680	2870-2490 cal. BC	As above	Oryza sativa	Fujian Provincial Museum (2010); Ma et al. (2016); Jiao (2013)
Tanshishan	Fujian	昙石山	Tanishan Culture	charcoal	BA-04292	4055	30	4055±30	2840	2480	2660	2840-2480 cal. BC	As above	Oryza sativa	Fujian Provincial Museum (2010); Ma et al. (2016); Jiao (2013)
Tanshishan	Fujian	昙石山	Tanishan Culture	charcoal	BA-04293	4025	30	4025±30	2630	2470	2550	2630-2470 cal. BC	As above	Oryza sativa	Fujian Provincial Museum (2010); Ma et al. (2016); Jiao (2013)
Tanshishan	Fujian	昙石山	Tanishan Culture	charcoal	BA-04290	3975	30	3975±30	2580	2350	2465	2580-2350 cal. BC	As above	Oryza sativa	Fujian Provincial Museum (2010); Ma et al. (2016); Jiao (2013)
Tanshishan	Fujian	昙石山	Tanishan Culture	charcoal	BA-04298	3970	40	3970±40	2580	2340	2460	2580-2340 cal. BC	As above	Oryza sativa	Fujian Provincial Museum (2010); Ma et al. (2016); Jiao (2013)
Tanshishan	Fujian	昙石山	Tanishan Culture	charcoal	BA-04289	3965	30	3965±30	2580	2340	2460	2580-2340 cal. BC	As above	Oryza sativa	Fujian Provincial Museum (2010); Ma et al. (2016); Jiao (2013)
Tanshishan	Fujian	昙石山	Tanishan Culture	animal bone	ZK-0099	3498	70	3498±70	2020	1640	1830	2020-1640 cal. BC	Dates shown with corrected h.l. as assumed that as with other dates in Zhang and Hung (2010) the 5730 h.l. was originally given. Seems very late.	Oryza sativa	Zhang and Hung (2010); Yan (1989); Lin (2005)
Tanshishan	Fujian	昙石山	Tanishan Culture	shell	ZK-0098	3002	60	3002±60	890	520	705	890-520 cal. BC	It is assumed that as with other dates in Zhang and Hung (2010) the 5730 h.l. was originally given. The calibrated dates are therefore corrected for the 5568 h.l. and using Marine13 curve (ΔR 91±29). The two dates are not statistically contemporary. THis being much younger.	Oryza sativa	Zhang and Hung (2010); Yan (1989); Lin (2005)
Zhuangbianshan	Fujian	庄边山	Tanishan Culture	Shell	Beta-347604	4350	30	4350±30	2490	2330	2410	2490-2330 cal. BC	Large amounts of rice dehusking waste identified from phytoliths. Date calibrated using Marine 13 (ΔR 92±40). Co-ordinates - 26.100848, 119.145843	Oryza sativa (phytoliths in large numbers)	Ma et al. (2016)
Huangguashan	Fujian	黄瓜山	Huangguashan Culture	Charcoal	BA-02152	3920	60	3920±60	2580	2200	2390	2580-2200 cal. BC	Date is regarded as start of site. However it appears anomalous	Oryza sativa	Jiao 2007 (table 33, 246); Jiao (2013)
Huangguashan	Fujian	黄瓜山	Huangguashan Culture	Charcoal (Layer 9)	NZA-16011	3687	60	3687±60	2280	1900	2090	2280-1900 cal. BC	Dates for earliest levels are consistent.	Oryza sativa	Jiao 2007 (table 33, 246); Jiao (2013)
Huangguashan	Fujian	黄瓜山	Huangguashan Culture	Charcoal (Layer 9)	BA-02155	3640	60	3640±60	2200	1830	2015	2200-1830 cal. BC	As above	Oryza sativa	Jiao 2007 (table 33, 246); Jiao (2013)
Huangguashan	Fujian	黄瓜山	Huangguashan Culture	Charcoal (Layer 9)	NZA-16010	3634	55	3634±55	2200	1870	2035	2200-1870 cal. BC	As above	Oryza sativa	Jiao 2007 (table 33, 246); Jiao (2013)
Huangguashan	Fujian	黄瓜山	Huangguashan Culture	Charcoal (Layer 9)	BA-02154	3620	100	3620±100	2290	1690	1990	2290-1690 cal. BC	As above	Oryza sativa	Jiao 2007 (table 33, 246); Jiao (2013)
Huangguashan	Fujian	黄瓜山	Huangguashan Culture	Charcoal (Layer 4)	BA-02156	3440	60	3440±60	1910	1610	1760	1910-1610 cal. BC	Later levels are consistent. Jiao (2007, 246) suggests that wheat and barley might be brought into historical cultural layers from lower levels but seems probable given the early date that they are intrusive.	Oryza sativa, probably intrusive Hordeum x1, also Triticum x7 in historical layer 2	Jiao 2007 (table 33, 246); Jiao (2013)
Huangguashan	Fujian	黄瓜山	Huangguashan Culture	Charcoal (Layer 4)	BA-02153	3430	80	3430±80	1940	1530	1735	1940-1530 cal. BC	As above	As above	Jiao 2007 (table 33, 246); Jiao (2013)
Shaxia	Hong Hong	沙吓	Early Neolithic	No radiocarbon dates					2500	2500	2500	2500-2500 cal. BC	Date given as estimated within Zhang and Hung (2010).	Oryza sativa. Only a single grain is recorded so should be regarded with some caution.	Zhang and Hung (2010); Lu et al. (2006)
Shixia	Guangdong	石峡	Shixia phase (Phase 1)	charcoal	Bk76024	4100	110	4100±110	2920	2340	2630	2920-2340 cal. BC	Dates shown with corrected h.l. as assumed that as with other dates in Zhang and Hung (2010) the 5730 h.l. was originally given. This date is older than those from Xinghuahe but broadly might be seen as representative of the earliest phase of Shixia Culture.	Oryza sativa	Yang (1978); Zhang et al. (2006); Zhang and Hung (2010)
Shixia	Guangdong	石峡	Shixia phase (Phase 3)	charcoal	Bk75046	4207	90	4207±90	3030	2490	2760	3030-2490 cal. BC	Dates shown with corrected h.l. as assumed that as with other dates in Zhang and Hung (2010) the 5730 h.l. was originally given. This date for phase 3 is not statistically contemporary and older than that for the oldest phase 1. It is likely that it is subject to the problems with dating old wood and therefore suspect.	Oryza sativa	Yang (1978); Zhang et al. (2006); Zhang and Hung (2010)
Shixia	Guangdong	石峡	Shixia phase (Phase 3)	charcoal	Bk75050	3906	100	3906±100	2840	2040	2440	2840-2040 cal. BC	Dates shown with corrected h.l. as assumed that as with other dates in Zhang and Hung (2010) the 5730 h.l. was originally given. This date is considered the most accurate for the Shixia culture as broadly contemporary with Xinghuahe	Oryza sativa	Yang (1978); Zhang et al. (2006); Zhang and Hung (2010)
Shixia	Guangdong	石峡		rice grain	Beta-397662	3810	30	3810±30	2340	2140	2240	2340-2140 cal. BC	This the only direct date on rice from the site proivides a suitable illustration of discrepancies with old charcoal dates which range from 200-500 years earlier than those on rice. It might also be noted this same study indicates that rice from the older site of Guye also in Guangdong was intrusive.	Oryza sativa	Yang et al. (2016)
Xinghuahe	Guangdong	杏花河	Shixia phase	unknown	unknown	3916	120	3916±120	2860	2030	2445	2860-2030 cal. BC	Material and lab numbers are unknown. The dates again are assumed to originally be presented using the 5730 h.l. The dates are broadly contemporary and consistent with the younger charcoal dates from Shixia. But still should be regarded with some caution.	Oryza sativa	Zhang and Hung (2010); Xiang and Yao (2006); Zhang et al. (2008)
Xinghuahe	Guangdong	杏花河	Shixia phase	unknown	unknown	3916	220	3916±220	3010	1770	2390	3010-1770 cal. BC	As above	Oryza sativa	Zhang and Hung (2010); Xiang and Yao (2006); Zhang et al. (2008)
TAIWAN (MILLETS AND RICE)															
Nanguanlidong	Taiwan	南关里东	Ta-p'en-keng	charcoal	NTU-3974	4110	50	4110±50	2880	2490	2685	2880-2490 cal. BC	It is unclear if the dates from NTU given in Hung and Carson (2014) citing Tsang et al. (2006) represent the 5568 or 5730 h.l. GX dates from Geochron Laboratories, USA would originally be given at the 5568 h.l. and have been treated as such. However they may have been converted to 5730 h.l.	Oryza sativa, Panicum and Setaria	Tsang et al. (2006:316-8); Zhang and Hung (2010)
Nanguanli	Taiwan	南关里	Ta-p'en-keng	charcoal	NTU-3489	4080	50	4080±50	2870	2480	2675	2870-2480 cal. BC	As above	Oryza sativa, Panicum and Setaria	Tsang et al. (2006:316-8); Hung and Carson (2014); Zhang and Hung (2010); Tsang et al. (2017)
Nanguanli	Taiwan	南关里	Ta-p'en-keng	charcoal	GX-27788	4040	40	4040±40	2840	2460	2650	2840-2460 cal. BC	As above	Oryza sativa, Panicum and Setaria	Tsang et al. (2006:316-8); Hung and Carson (2014); Zhang and Hung (2010); Tsang et al. (2017)
Nanguanli	Taiwan	南关里	Ta-p'en-keng	charcoal	NTU-3452	3950	40	3950±40	2580	2300	2440	2580-2300 cal. BC	As above. Slightly younger and raises questions as to the possibility of the old wood affect on the above dates. This date is thought broadly reliable.	Oryza sativa, Panicum and Setaria	Tsang et al. (2006:316-8); Hung and Carson (2014); Zhang and Hung (2010); Tsang et al. (2017)
Nanguanli	Taiwan	南关里	Ta-p'en-keng	charcoal	GX-27329	3890	110	3890±110	2840	2030	2435	2840-2030 cal. BC	As above	Oryza sativa, Panicum and Setaria	Tsang et al. (2006:316-8); Hung and Carson (2014); Zhang and Hung (2010); Tsang et al. (2017)
Nanguanli	Taiwan	南关里	Ta-p'en-keng	charcoal	GX-27787	3730	90	3730±90	2460	1910	2185	2460-1910 cal. BC	As above. Notably somewhat younger but the larger error might bring it in-line to the two dates above.	Oryza sativa, Panicum and Setaria	Tsang et al. (2006:316-8); Hung and Carson (2014); Zhang and Hung (2010); Tsang et al. (2017)
Nanguanli	Taiwan	南关里	Ta-p'en-keng	marine shell	GX-27327	4470	60	4470±60	2840	2410	2625	2840-2410 cal. BC	Date corrected for the marine resevoir effect using Marine13 curve (ΔR 87±38) and is broadly in line with the older charcoal dates.	Oryza sativa, Panicum and Setaria	Tsang et al. (2006:316-8); Hung and Carson (2014); Zhang and Hung (2010); Tsang et al. (2017)
Nanguanli	Taiwan	南关里	Ta-p'en-keng	marine shell	NTU-3493	4450	40	4450±40	2760	2400	2580	2760-2400 cal. BC	As above	Oryza sativa, Panicum and Setaria	Tsang et al. (2006:316-8); Hung and Carson (2014); Zhang and Hung (2010); Tsang et al. (2017)
Nanguanli	Taiwan	南关里	Ta-p'en-keng	marine shell	NTU-3496	4230	40	4230±40	2450	2100	2275	2450-2100 cal. BC	As above. Broadly in line with younger dates	Oryza sativa, Panicum and Setaria	Tsang et al. (2006:316-8); Hung and Carson (2014); Zhang and Hung (2010); Tsang et al. (2017)
Nanguanli	Taiwan	南关里	Ta-p'en-keng	marine shell	GX-27328	4190	50	4190±50	2410	2010	2210	2410-2010 cal. BC	As above	Oryza sativa, Panicum and Setaria	Tsang et al. (2006:316-8); Hung and Carson (2014); Zhang and Hung (2010); Tsang et al. (2017)
K'en-ting	Taiwan	墾丁	Ta-p'en-keng	None					2500	2500	2500	2500-2500 cal. BC	No radiocarbon dates but generally cited as 4500 BP/2500 BC.	Oryza sativa - impressions in pottery	Bellwood (2007: 213); Li K-C (1983; 1987)
MAINLAND SE ASIA (SITES WITH MILLETS)															
Nil Kham Haeng	Thailand	นิลแขมแหง	Neolithic/Bronze Age	unknown	B-24459	not available		?	1301	900	1100,5	1301-900 cal. BC	The date for sample B-24459 is 1301-900 BC but given as 1100-700 BC in Piggott et al. (2006)	Oryza and Setaria	Pigott et al. (2006); Natapintu (1991)
Non Mak La	Thailand	โนนหมากลา	Neolithic	No Dates					2100	1800	1950	2100-1800 cal. BC	No radiocarbon dates are available for this site.	Setaria	Higham (1989, 269-274); Pigott et al. (2006); Weber et al. (2010)
Non Mak La	Thailand	โนนหมากลา	Neolithic/Bronze Age	No Dates					1500	1100	1300	1500-1100 cal. BC	As above	Setaria	Higham (1989, 269-274); Pigott et al. (2006); Weber et al. (2010)
Non Pa Wai	Thailand	โนนป่าหวาย	Neolithic	Foxtail Millet	No Lab Code	3870	40	3870±40	2470	2200	2335	2470-2200 cal. BC	No laboratory codes. Date is earliest date for southwest spread of Setaria.	Setaria	Weber et al. (2010)

Site	Province	Local Script	Culture	C14 Material	Code	Date	Error	Date	Cal. Start	Cal. Finish	Median	Calibrated 2 sigma	Comments	Crops	References
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	ANU-5487	4390	110	4390±110	3370	2700	3035	3370-2700 cal. BC	dates is much older than other dates from the same layer. Suspect hearth deposits may be mixture of charcoal and clay that might contain "old" carbon. Has been dismissed.	rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	NZ-7063	4310	310	4310±310	3710	2050	2880	3710-2050 cal. BC	Probably still slightly too old by comparision with other dates	rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	ANU-5490	3730	100	3730±100	2460	1900	2180	2460-1900 cal. BC	As above	rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	NZ-7060	3680	90	3680±90	2350	1770	2060	2350-1770 cal. BC	As above	rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	ANU-5486	3610	90	3610±90	2270	1690	1980	2270-1690 cal. BC	Regarded as upper limit of probable date range	rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	ANU-5488	3580	100	3580±100	2210	1660	1935	2210-1660 cal. BC		rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	ANU-5493	3560	120	3560±120	2280	1610	1945	2280-1610 cal. BC		rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	ANU-5491	3530	80	3530±80	2130	1660	1895	2130-1660 cal. BC		rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	ANU-5492	3480	110	3480±110	2140	1520	1830	2140-1520 cal. BC		rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	ANU-5489	3420	90	3420±90	1950	1500	1725	1950-1500 cal. BC		rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	ANU-5485	3410	110	3410±110	2020	1450	1735	2020-1450 cal. BC	Regarded as lower limit of probable date range	rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Khok Phanom Di (Layer 10)	Thailand	โคกพนมดี	Neolithic	charcoal	ANU-5484	3280	140	3280±140	1930	1220	1575	1930-1220 cal. BC	Possibly too young.	rice from layer 10 (Thompsen 1996)	Thompson (1996); Maloney and McAlister (1990)
Tongle Sap Lake (6 sites)	Cambodia	ទន្លេសាប	Neolithic	charcoal	R26608/3	?3681	?60	?3681±?60	2205	1887	2046	2205-1887 cal. BC	The laboratory number given in Vanna (2002) is the submission number and not an NZA number as would normally be given. It is believed the uncalibrated date is likely to be 3681±60 BP which calibrates using the old InTCal 98 curve (as Vanna is likely to have used) at 2205-1887 cal. BC at 94.2% probability.	Only Oryza on 6 sites	Vanna (2001; 2002)
Krek 52/62	Cambodia	ក្រែក 52/62	Neolithic	pottery organic temper	ETH-18972	3990	70	3990±70	2860	2280	2570	2860-2280 cal. BC	Problems with discrepancy in the dates and with dating organics in a clay matrix are noted by Albrecht et al. (2006). Probably too early.	Oryza	Vincent (2003); Albrecht et al. (2001: 42)
Krek 52/62	Cambodia	ក្រែក 52/62	Neolithic	pottery organic temper	ETH-18972	3495	75	3495±75	2030	1630	1830	2030-1630 cal. BC	As above. This date is also seen as unreliable.	Oryza	Vincent (2003); Albrecht et al. (2001: 42)
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-31909	3310	30	3310±30	1660	1500	1580	1660-1500 cal. BC	Seen as mainly hunter-gatherer-fisher subsistence with low frequencies of domesticates.	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-31907	3260	35	3260±35	1620	1440	1530	1620-1440 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-31906	3250	30	3250±30	1620	1450	1535	1620-1450 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-31912	3250	30	3250±30	1620	1450	1535	1620-1450 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-31913	3245	30	3245±30	1610	1440	1525	1610-1440 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-31911	3230	35	3230±35	1610	1420	1515	1610-1420 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30823	3200	35	3200±35	1600	1400	1500	1600-1400 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30833	3195	40	3195±40	1610	1580	1595	1610-1580 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30830	3190	45	3190±45	1610	1310	1460	1610-1310 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-31910	3190	30	3190±30	1520	1410	1465	1520-1410 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30832	3190	35	3190±35	1530	1400	1465	1530-1400 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30836	3165	30	3165±30	1510	1390	1450	1510-1390 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30825	3150	35	3150±35	1510	1300	1405	1510-1300 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30829	3150	40	3150±40	1510	1300	1405	1510-1300 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30835	3130	30	3130±30	1500	1290	1395	1500-1290 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30831	3130	35	3130±35	1500	1290	1395	1500-1290 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30827	3125	35	3125±35	1500	1280	1390	1500-1280 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30824	3085	35	3085±35	1430	1250	1340	1430-1250 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal	SANU-30826	3080	35	3080±35	1430	1250	1340	1430-1250 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015); Castillo et al., in press
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal (bulk)	HNK-177/3	3635	85	3635±85	2280	1750	2015	2280-1750 cal. BC	2003 excavations; no archaeobotanical data. As often with bulk charcoal dates contamination by older and younger material can be a problem.	Oryza and Setaria	Oxenham et al. (2015): table S2
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal (bulk)	HNK-177/3	3545	85	3545±85	2140	1660	1900	2140-1660 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015): table S2
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal (bulk)	HNK-177/2	3330	100	3330±100	1890	1420	1655	1890-1420 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015): table S2
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal (bulk)	HNK-177/2	3200	100	3200±100	1740	1220	1480	1740-1220 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015): table S2
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal (bulk)	HNK-177/1	2560	130	2560±130	980	390	685	980-390 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015): table S2
Rach Nui	Vietnam	Rạch Núi	Neolithic	charcoal (bulk)	HNK-177/1	2430	50	2430±50	760	400	580	760-400 cal. BC	As above	Oryza and Setaria	Oxenham et al. (2015): table S2
RUSSIA - FAR EAST															
Krounovka-1	Russian Far East	Кроуновка	Krounovsky	unknown	NUTA-5643	4671	31	4671±31	3630	3360	3495	3630-3360 cal. BC	As above	Panicum miliaceum, Perilla and ?1x Setaria, gathered plants were well represented	Sergusheva and Vostretsov, (2009)
Krounovka-1	Russian Far East	Кроуновка	Neolithic	unknown	Beta-171662	4640	40	4640±40	3620	3350	3485	3620-3350 cal. BC	As above	As above	Sergusheva and Vostretsov, (2009)
Zaisanovka-1	Russian Far East	Зайсановка-1	Zaisanovsky	unknown	NUTA-5282	4010	44	4010±44	2840	2400	2620	2840-2400 cal. BC	As above	Setaria. Grains very small	Sergusheva and Vostretsov, (2009)
Zaisanovka-1	Russian Far East	Зайсановка-1	Zaisanovsky	unknown	NUTA-5483	3972	31	3972±31	2580	2340	2460	2580-2340 cal. BC	As above	As above	Sergusheva and Vostretsov, (2009)
Zaisanovka-7	Russian Far East	Зайсановка-7	Zaisanovsky	No dates given					2800	2400	2600	2800-2400 cal. BC		Possible impressions of Panicum in ceramics. Gathered foods are well represented but no remains of cultigens. However, agricultural tools are present.	Sergusheva and Vostretsov, (2009)
Novoselische-4	Russian Far East	Новоселище	Zaisanovsky	unknown	AA-13400	3840	70	3840±70	2480	2040	2260	2480-2040 cal. BC	As above	Panicum	Sergusheva and Vostretsov, (2009)
Novoselische-4	Russian Far East	Новоселище	Zaisanovsky	unknown	AA-36748	3755	35	3755±35	2290	2030	2160	2290-2030 cal. BC	As above	Panicum	Sergusheva and Vostretsov, (2009)
KOREA															
Neunggok	South Korea	능곡	Middle Chulmun	Foxtail Millet	Beta-252973	4740	40	4740±40	3640	3370	3505	3640-3370 cal. BC	Direct date on millet. Earliest secure date.	Panicum & Setaria*1	Lee G. A. (2011, table 1)
Daechon-ri	South Korea	대천리	Middle Chulmun	Charred wood	SNU-267	4590	70	4590±70	3630	3090	3360	3630-3090 cal. BC	Uncharred rice, along with barley and wheat, were recovered from this site and therefore it's antiquity is questionable and potentially more recent (see Crawford and Lee 2003; Ahn 2010)	Panicum, Setaria, uncharred Oryza likely to be contaminant	Han et al. (2003); Lee (2009; 2011); Ahn (2010)
Daechon-ri	South Korea	대천리	Middle Chulmun	Charred wood	SNU-268	4490	40	4490±40	3360	3020	3190	3360-3020 cal. BC	As above	Panicum, Setaria, ?Oryza (as above)	Han et al. (2003); Lee (2009; 2011); Ahn (2010)
Daechon-ri	South Korea	대천리	Middle Chulmun	Charred wood	SNU-263	4400	60	4400±60	3340	2900	3120	3340-2900 cal. BC	As above	Panicum, Setaria, ?Oryza (as above)	Han et al. (2003); Lee (2009; 2011); Ahn (2010)
Daechon-ri	South Korea	대천리	Middle Chulmun	Charred wood	SNU-269	4240	110	4240±110	3320	2490	2905	3320-2490 cal. BC	As above	Panicum, Setaria, ?Oryza (as above)	Han et al. (2003); Lee (2009; 2011); Ahn (2010)
Tongsamdong [Dongsam-Dong]	South Korea	동삼동	Middle Chulmun	Foxtail millet	TO-8783	4590	100	4590±100	3640	3020	3330	3640-3020 cal. BC	Direct date on millet from house floor within 2000 excavations	Panicum, Setaria*1	Crawford and Lee (2003); Lee (2011, table 1)
Pyeonggeodong	South Korea	평거동	Middle Chulmun	Broomcorn millet	SNU-252972	4340	40	4340±40	3090	2890	2990	3090-2890 cal. BC	Direct date on Broomcorn millet	Panicum*1 & Setaria	Lee (2011, table 1)
Gahyeon-ri	South Korea	가현리	Middle Chulmun	Peat	KSU-no number	3890	30	3890±30	2470	2290	2380	2470-2290 cal. BC	This date is reported in Ahn (2010) as 4010±25, in Choe and Bale (2002) as 4020±25 and in Lee (2011) as 3890 ±30 BP. Lee (2011) references Kang et al. (1993) who recalibrated Korean dates. This has not been seen but it is suspected the date was corrected by Kang et al. from a 5570 half-life.	Oryza & Setaria. Waterlogged and recovered and dated from peat. Therefore as with other sites in this region from which rice has been recovered from peat this may be natural wild rice (see Ahn 2010).	Im (1990); Ahn (2010); Lee (2011); Kang et al. 2011; Choe and Bale (2002)
Gawaji/Kawaji [Islan 2)	South Korea	가와지	Middle Chulmun	Peat	Beta-45536	4330	80	4330±80	3340	2690	3015	3340-2690 cal. BC	Ahn (2010) cites these two further cases of earlier C14 dates rice husks in peat near Gahyeon-ri. However as Ahn states in neither case were these rice husks associated with archaeological material and therefore are likely of wild rice. As such the evidence from all these sites cannot be used to support the cultivation of rice at this date.	Oryza. May be wild see comment	Ahn (2010)
Seongjeo-ri [Islan 1)	South Korea	성저리	Middle Chulmun	Peat	Beta-48484	4070	80	4070±80	2890	2460	2675	2890-2460 cal. BC	Ahn (2010) cites these two further cases of earlier C14 dates rice husks in peat near Gahyeon-ri. However as Ahn states in neither case were these rice husks associated with archaeological material and therefore are likely of wild rice. As such the evidence from all these sites cannot be used to support the cultivation of rice at this date.	Oryza. May be wild see comment	Ahn (2010)
Masan-ri	North Korea	마산리	Middle Chulmun	No C14 dates					3500	2000	2750	est. 3500-2000 BC	As with Jitap-Ri it is unclear exactly how well identified this material is.	Setaria italica	Aikens and Lee (2014)
Jitap-ri	North Korea	지탑리	Middle Chulmun	No C14 dates					3500	2000	2750	est. 3500-2000 BC	Some serious problems as to autheticity and identifications of plant finds from this site (see Lee 2011; Kim 2014)	Possible Setaria italica. Maybe barnyard millet?	Yoon Seo Suk (2001); Do and Hwang (1961); Kim (2014); Choe and Bale (2002)
Oun 1	South Korea	오운 1	Middle Chulmun	foxtail millet	TO-8607	4030	100	4030±100	2880	2290	2585	2880-2290 cal. BC	Direct date on Setaria italica	Setaria italica	Ahn (2010); Lee (2011)
Oun 1	South Korea	오운 1	Early Mumun	rice	TO-8605	3610	280	3610±280	2870	1310	2090	2870-1310 cal. BC	Date on rice has a wide range that just falls outside further dates on rice and foxtail millet from same house [104] Date SNU-125 (see Lee 2011). Following Ahn (2010) the date should be dismissed as unreliable and rice farming in the Chulmun period is not yet confirmed	Setaria italica; rice at this date is regared as uncofirmed and the radiocarbon date as unreliable.	Ahn (2010); Lee (2011)
Oun 1	South Korea	오운 1	Early Mumun	rice	SNU-125	2850	60	2850±60	1210	850	1030	1210-850 cal. BC	Earliest confirmed co-occurrence of rice and foxtail millet	Setaria italica, Oryza	Ahn (2010); Lee (2011)
Oun 1	South Korea	오운 1	Early Mumun	foxtail millet	SNU-126	2830	60	2830±60	1200	830	1015	1200-830 cal. BC	As above	Setaria italica, Oryza	Ahn (2010); Lee (2011)
Oun 1	South Korea	오운 1	Early Mumun	foxtail millet	TO-8637	2800	100	2800±100	1230	790	1010	1230-790 cal. BC	As above	Setaria italica, Oryza	Ahn (2010); Lee (2011)
Gyodong: House No. 1	South Korea	교동	Early Mumun	rice	SNU 08-305	3040	60	3040±60	1440	1110	1275	1440-1110 cal. BC	Presently earliest direct date for cultivated rice in Korea. However, as with Oun above the date again is not consistent with the date on rice below from the same house.	Setaria italica, Oryza	Ahn (2010)
Gyodong: House No. 1	South Korea	교동	Early Mumun	rice	PED-11437	2860	20	2860±20	1120	940	1030	1120-940 cal. BC	As above. It should be noted that the dates from this house are not consistent	Setaria italica, Oryza	Ahn (2010); Shoda (2010)
Sosa-dong: House No. Ga-10	South Korea	소사동	Early Mumun	rice	SNU 05-1014	2840	50	2840±50	1200	850	1025	1200-850 cal. BC		Oryza and Hordeum reported	Ahn (2010); Korean Institute of Heritage 2008; Kim et al. (2013)

Site	Province	Local Script	Culture	C14 Material	Code	Date	Error	Date	Cal. Start	Cal. Finish	Median	Calibrated 2 sigma	Comments	Crops	References
Sanjik-ri: House No. 12	South Korea	산직리	Early Mumun	rice	SNU 05-440	2790	60	2790±60	1110	810	960	1110-810 cal. BC		Oryza	Ahn (2010)
Songdam-ri: House KC-001	South Korea	송담리	Early Mumun	rice	PED-11435	2720	20	2720±20	910	810	860	910-810 cal. BC		Oryza	Shoda (2010)
JAPAN															
Nabatake	Japan	菜畑	Final Jomon/Yamanotera		Level 13	3000	80	3000±80	1430	1010	1220	1430-1010 cal. BC	The site has good evidence for tools associated with cultivation, along with fields. It is generally seen as spaning the Yamoantera phase both attributed to the Final Jomon and the Initial Yayoi. As such the site could date anywhere between 800 BC to 400 BC, but more likely 500-400 BC (Kumar 2009). The C14 dates are therefore too early and are are inconsitent with the stratigraphy. Unforunately it is unclear what material was dated e.g. peat, bulk charcoal etc. The dates are all seen as unreliable.	No charred cultigens were recovered from the lowest levels	Crawford 1992 (citing Tosu-shi Kyoiku linkai 1982); Kasahara (1982); Imamura (1996: 136); Takahashi (2009); Kumar (2009, 28)
Nabatake	Japan	菜畑	Final Jomon/Yamanotera		Level 10-11	4030	65	4030±65	2870	2340	2605	2870-2340 cal. BC	As above. This much older date from a stratigraphically later level illustrates the problems with the dating on this site.	No charred cultigens were recovered from the lowest levels	Crawford 1992 (citing Tosu-shi Kyoiku linkai 1982); Kasahara (1982); Imamura (1996: 136); Takahashi (2009); Kumar (2009, 28)
Nabatake	Japan	菜畑	Final Jomon/Yamanotera		Level 10-11	2680	80	2680±80	1050	550	800	1050-550 cal. BC	While this and the date below do appear younger it is unknown if they are on different material to the other dates, or may suffer from similar problems	Perillia seeds and a single Setaria and Oryza at Level 11, mung bean?	Crawford 1992 (citing Tosu-shi Kyoiku linkai 1982); Kasahara (1982); Imamura (1996: 136); Takahashi (2009); Kumar (2009, 28)
Nabatake	Japan	菜畑	Final Jomon/pre-Yamanotera		Level 8	2620	60	2620±60	920	540	730	920-540 cal. BC	As above	One rice grain, mung bean, Perilla	Crawford 1992 (citing Tosu-shi Kyoikulinkai 1982); Kasahara (1982)
Nabatake	Japan	菜畑	Final Jomon/pre-Yamanotera		Level 8	3230	100	3230±100	1750	1260	1505	1750-1260 cal. BC	This date is older than dates stratigraphically below.	As above	Crawford 1992 (citing Tosu-shi Kyoikulinkai 1982); Kasahara (1982)
Nabatake	Japan	菜畑	Final Jomon/pre-Yamanotera		Level 8	2960	90	2960±90	1420	930	1175	1420-930 cal. BC	Date was dismissed as too old	As above	Crawford 1992 (citing Tosu-shi Kyoikulinkai 1982); Kasahara (1982)
Kuwagaishimo	Japan	桑飼下	Late Jomon	No C14 dates					1500	1000	1250	1500-1000 cal. BC	Two barley and Azuki beans , along with were also recorded from this site. The date of the site is estimated as Late Jomon. But given the presence of barley it is likely the material could be intrusive. The record should be dismissed.	Oryza carbonized grains; 2x Hordeum	Hudson (1999, table 5.2); Kotani (1981); Nishida (1975); Crawford (1992)
Itaya III	Japan	板谷Ⅲ	Late Jomon / Late Tottaimon	Unknown if C14 dated. Uncalibrated date is our estimate from the calibrated date given in Nasu and Momohara (2016).	unknown	2850	50	2850±50	1200	890	1045	1200-890 cal. BC	It is unclear if there is a C14 date for this site. The reported date is not thought reliable. The ceramic phasing (Tottimon 突帯文) as with other records here is generally equated as Late Final Joman/Early Yayoi and so at earliest between 800-400 BC.	Oryza. Impressions within pottery	Nasu and Momohara (2016)
Kazahari	Japan	カザハリ	Final Jormon/ Tokoshinai IV	rice grains	TO-4086	2810	270	2810±270	1690	380	1035	1690-380 cal. BC	The date ranges are very wide and the estimates could still place the date within the traditional framework. The likely date probably lies between 980-380 BC and would as such be the earliest site with rice, foxtrail and broomcorn millet. Although only one grain of Panicum was recovered.	Oryza, Setaria and single find of Panicum	D'Andrea (1995); D'Andrea et al. (1995)
Kazahari	Japan	カザハリ	Final Jormon/ Tokoshinai IV	rice grains	TO-2202	2540	240	2540±240	1280	50	665	1280-50 cal. BC	As above	Panicum & Oryza	D'Andrea (1995); D'Andrea et al. (1995)
Ryugasaki 滋賀	Japan	竜ケ崎A	Final Jomon/pre-Yamanotera/ Nagahara	Panicum	PLD-5304	2550	25	2550±25	810	550	680	810-550 cal. BC	This is probably the earliest and most reliable dating for the introduction of agriculture to Japan. However neither foxtail milllet nor rice has not been recovered from the site.	Panicum	Miyata (2007); Obata (2011, 168); Miyata et al. (2007)
Uenoharu	Japan	上野原	Final Jomon/pre-Yamanotera	No C14 dates					1000	300	650	1000-300 cal. BC		Oryza carbonized grains, pottery impressions	From Hudson (1999, table 5.2) citing Kotani 1972
Eryoharu	Japan	飼領原	Final Jomon/pre-Yamanotera	No C14 dates					1000	300	650	1000-300 cal. BC		Oryza carbonized grains	From Hudson (1999, table 5.2) citing Kagawa 1971
Oishi	Japan	大石	Final Jomon/pre-Yamanotera	No C14 dates					1000	300	650	1000-300 cal. BC	Has hoes and agricultural tools recorded. But date is uncertain.	Oryza carbonized grains, pottery impressions	From Hudson (1999, table 5.2) citing Kagawa 1972; Kagawa 1973
Kureishibaru	Japan	礫石原	Final Jomon/pre-Yamanotera	No C14 dates					1000	300	650	1000-300 cal. BC		Oryza carbonized grains, pottery impressions	From Hudson (1999, table 5.2) citing Furuta 1972
Yonetake	Japan	米竹 大分	Yayoi Period	rice	PLD-5104	2235	20	2235±20	390	200	295	390-200 cal. BC	Reliable dating but would be thought of at the end of the transition to rice/millet agriculture in Japan.	Panicum & Oryza	Nishimoto (2007); Obata (2011,186-187)
Yonetake	Japan	米竹 大分	Yayoi Period	Panicum	PLD-5106	2230	20	2230±20	380	200	290	380-200 cal. BC	as above	Panicum & Oryza	Nishimoto (2007); Obata (2011,186-187)
Ukikunden	Japan	宇木汲田	Yu'usu - Final Jomon - Initial Yayoi	charcoal	Kuri-0054	2240	50	2240±50	400	150	275	400-150 cal. BC	Site has Yu'usu style pottery. The date seems slightly later but is thought reliable.	Oryza. Rice husks reported from shell layers	Kagawa (1973); Hudson (1999, table 5.5)
Ukikunden	Japan	宇木汲田	Yu'usu - Final Jomon - Initial Yayoi	shell	Kuri-0053	2370	50	2370±50	370	-60	155	370 cal. BC - 60 AD	Date corrected for the marine resevoir effect using Marine13 curve (ΔR - 94±72). The correction brings this date within the range of the charcoal date.	Oryza. Rice husks reported from shell layers	Kagawa (1973); Hudson (1999, table 5.5)
Shimogouri	Japan	下郡 大分	Yayoi Period	rice	PLD-5109	2185	25	2185±25	360	170	265	360-170 cal. BC	As with Yonetake these are the earliest reliable dates for foxtail millet and rice together, but are likely to lie towards the end of the transition.	Setaria & Oryza	Nishimoto (2007); Obata (2011,186-187)
Shimogouri	Japan	下郡 大分	Yayoi Period	Setaria italica	PLD-6466	2185	35	2185±35	370	160	265	370-160 cal. BC	As above	Setaria & Oryza	Nishimoto (2007); Obata (2011,186-187)
Shimogouri	Japan	下郡 大分	Yayoi Period	rice	PLD-6463	2175	30	2175±30	370	120	245	370-120 cal. BC	As above	Setaria & Oryza	Nishimoto (2007); Obata (2011,186-187)
Shimogouri	Japan	下郡 大分	Yayoi Period	rice	PLD-5111	2165	20	2165±20	360	120	240	360-120 cal. BC	As above	Setaria & Oryza	Nishimoto (2007); Obata (2011,186-187)
Shimogouri	Japan	下郡 大分	Yayoi Period	?	PLD-5110	2160	20	2160±20	360	110	235	360-110 cal. BC	As above	Setaria & Oryza	Nishimoto (2007); Obata (2011,186-187)
Shimogouri	Japan	下郡 大分	Yayoi Period	rice	PLD-6461	2140	35	2140±35	360	50	205	360-50 cal. BC	As above	Setaria & Oryza	Nishimoto (2007); Obata (2011,186-187)
Shimogouri	Japan	下郡 大分	Yayoi Period	rice	PLD-6459	2125	35	2125±35	360	40	200	360-40 cal. BC	As above	Setaria & Oryza	Nishimoto (2007); Obata (2011,186-187)
Shimogouri	Japan	下郡 大分	Yayoi Period	rice	PLD-9492	2125	35	2125±35	360	40	200	360-40 cal. BC	As above	Setaria & Oryza	Nishimoto (2007); Obata (2011,186-187)
Shimogouri	Japan	下郡 大分	Yayoi Period	rice	PLD-6458	2080	35	2080±35	200	1	100,5	200-1 cal. BC	As above	Setaria & Oryza	Nishimoto (2007); Obata (2011,186-187)
Shimogouri	Japan	下郡 大分	Yayoi Period	rice	PLD-6460	2080	35	2080±35	200	1	100,5	200-1 cal. BC	As above	Setaria & Oryza	Nishimoto (2007); Obata (2011,186-187)