[Supplementary material]

Settlement change on the western Konya Plain: refining Neolithic and Chalcolithic chronologies at Canhasan, Turkey

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Pre-treatment of AMS samples included washing the sample in hot 1M HCl, followed by rinsing and treating with multiple hot 1M NaOH washes. The NaOH insoluble fraction was treated with hot HCl, filtered, rinsed and dried.

Table S1. Original conventional radiocarbon dates for Canhasan III calibrated using OxCal 4.2 (IntCal13 calibration curve) (Ergin 1979; Burleigh *et al*. 1982; Gillespie *et al*. 1985; Bowman *et al*. 1990; Bronk Ramsey 2009; Reimer *et al*. 2013).

Code	Trench	Comments	Context	Layer	Material	Result (years BP)	Error	cal BC (1σ)	cal BC (2σ)
BM-817	49K	Hearth	860.2	NA	Charred grain	> 100	-		

OxA-392	49K	Hearth	860.2	NA	Wheat chaff	250	90		AD 1454–1954
HU-9	49L?	Phase 1–2, near summit	Unknown	1 or 2	Wood charcoal	7874	70	6998–6635	7032–6596
BM-1657R	49L	Sample 28F3	105.4	1	Wood charcoal	8080	130	7290–6816	7450–6655
BM-1658R	49L	Sample 29F	105.5	1	Wood charcoal	8060	130	7182–6767	7447–6644
BM-1656R	49L	Sample 17F	103.4	2	Wood charcoal	8090	170	7311–6780	7499–6639
BM-1655R	49L	Sample 6F	105.9	3	Wood charcoal	7980	120	7051–6701	7294–6593
HU-10	49L	Phase 3, near summit	Unknown	3	Wood charcoal	7796	140	6897–6467	7055–6427
BM-1662R	49L	Sample 148F	107.12	3	Wood charcoal	8460	110	7596–7361	7721–7188
BM-1663R	49L	Sample 149F	107.13	3	Wood charcoal	8350	210	7584–7085	7939–6767
BM-1664R	49L	Sample 156F	107.21	3	Wood charcoal	8470	140	7647–7328	7936–7084

BM-1665R	49L	Sample 158F	107.32	3	Wood charcoal	8270	160	7486–7085	7594–6826
BM-1660R	49L	Sample 63F	105.13	4	Wood charcoal	8390	140	7584–7201	7672–7065
BM-1666R	49L	Sample 162F	110.23	7	Wood charcoal	8460	150	7651–7306	7936–7079
BM-1667R	49L	Sample 162F2	110.23	7	Wood charcoal	8480	110	7604–7362	7751–7189
OxA-388	49L	Trench 49L	110.24	8	Charred grain	7910	160	7044–6641	7291–6456
HU-11	49L	Near basal layers	Unknown	Unknown	Wood charcoal	8584	65	7657–7544	7749–7521
HU-12	49L	Basal layer	Unknown	9	Wood charcoal	8543	66	7601–7530	7714–7486

Table S2. Published dates from Canhasan I.

a. Conventional radiocarbon dates as reported in Stuckenrath and Ralph (1965) and Barker and Mackey (1968); calibrated using OxCal 4.2 and IntCal13 calibration curve (Bronk Ramsey 2009; Reimer *et al*. 2013).

Date code	*Context information*	*Layer*	*Material*	*Result (years BP)*	*Error*	*cal BC (1σ)*	*cal BC (2σ)*
P–789	NA	2A	Wood charcoal	6980	79	5977–5779	6005–5725
BM–153	Square R23b	2B	Wood charcoal	7190	150	6229–5911	6382–5773
P–794	House 3, W room, burnt fill	2B	Wood charcoal	7033	89	6007–5837	6056–5736
BM–151	Square R23b	2B	Wood charcoal	6880	150	5902–5641	6046–5531
P–795	House 3, E room	2B	Wood charcoal	6832	78	5786–5641	5895–5575
P–790	House 3, W room, burnt fill	2B	Wood charcoal	6830	78	5781–5641	5894–5575
P–791	House 3, W room, burnt fill	2B	Wood charcoal	6755	80	5729–5575	5807–5521
P–792	House 3, W room, burnt fill	2B	Wood charcoal	6670	76	5646–5528	5708–5485
P–793	House 3, W room, burnt fill	2B	Wood charcoal	6254	78	5315–5077	5461–5001

b. Radiocarbon wiggle-match measurements (Thissen 2002: 303)

Date code	*Context information*	*Phase*	*Material*	*Result*	*Error*	*cal BC (1σ)*
AA–41170	NA	2B	Juniper charcoal (tree 1)	7853	36	6750–6630
AA–41171	NA	2B	Juniper charcoal (tree 1)	7695	33	6590–6470

AA–41168	NA	2B	Juniper charcoal (tree 2)	7279	56	6220–6070
AA–41169	NA	2B	Juniper charcoal (tree 2)	7145	45	6055–5985

Table S3. Full details of AMS radiocarbon samples and results from Canhasan III (Square 49L); calibration using OxCal 4.2 (IntCal 13 calibration curve (Bronk Ramsey 2009; Reimer *et al*. 2013) (*$\delta^{13}C$ measured by AMS but not reported).

Code	Context/ sample No	Context info	Layer	Material	Weight	$\delta^{13}C$ AMS	Result (years BP)	cal BC (1σ)	cal BC (2σ)
Wk40645	101.3/97F	Yellow brown fill	1	1 Persian wheat (*Triticum cartlichum*) rachis segment	0.001	*	96±23	-	-
WK41923	101.5	Brown fill	1	1 'New type' glume wheat (*Triticum* sp.) spikelet fork	0.003	*	8129±31	7141–7062	7283–7049
WK41924	105.1	Wall fabric (brick/mortar)	1	1 'New type' glume wheat (*Triticum* sp.) spikelet fork	0.002	*	8219±28	7303–7180	7339–7085
OZP848	105.1/21F2	Wall fabric (brick/mortar)	1	1 almond (*Amygdalus orientalis/graeca*) nutshell fragment	0.025	-23.7±0.1	8140±50	7179–7062	7306–7048

OZP854	105.1/24W	Wall fabric (brick/mortar)	1	1 emmer wheat (*Triticum dicoccum*) grain	0.011	-24.4±0.1	8310±40	7461–7333	7498–7192
OZQ488	105.1/24W	Wall fabric (brick/mortar)	1	1 emmer wheat (*Triticum dicoccum*) grain	0.005	-24.0±0.1	8285±40	7454–7199	7472–7187
Wk40639	105.3/32F	Floor and make-up inside room	1	1 rye (*Secale cereal*) grain	0.006	*	8228±27	7301–7185	7345–7091
Wk40641	103.3/4F2	Sub-floor fill	2	1 hard wheat (*Triticum durum*) rachis segment	0.002	*	207±23	-	-
Wk40637	103.3/4F2	Sub-floor fill	2	1 rye (*Secale cereal*) rachis	0.001	*	228±22	-	-
OZP849	105.21/58F2	Upper floor deposit	3	1 almond (*Amygdalus orientalis/graeca*) nutshell fragment	0.028	-24.6±0.1	8215±45	7319–7143	7419–7075
Wk40642	105.37/34F2	Floor structure	3	1 bread wheat (*Triticum*	0.002	*	204±21	-	-

				aestivum) rachis segment					
WK41925	106.1/87F2	Collapsed wall fabric (brick/mortar)	3	1 *Triticum* "new type" spikelet fork	0.003	*	8209±26	7304–7173	7327–7084
OZP855	107.17 62W	Wall fabric	3	1 emmer wheat (*Triticum dicoccum*) grain	0.009	*	8310±45	7469–7330	7502–7190
Wk40643	107.17 70f2	Wall fabric	3	1 emmer/naked wheat (*Triticum* sp.) grain	0.008		8214±27	7304–7317	7333–7084
Wk40638	107.33 57F2	Wall fabric	3	1 rye (*Secale cereal*) rachis segment	0.002	*	332±21		
WK41926	107.39	Floor structure	3	1 emmer/naked wheat (*Triticum* sp.) grain	0.004	*	8212±29	7304–7176	7332–7083
OZQ489	109.4/76F2	Floor structure	4	1 almond (*Amygdalus orientalis/graeca*) nutshell fragment	0.014	-24.8±0.1	8245±40	7334–7186	7452–7086

Wk40644	109.6/95F2	Fill from slot in floor	4	1 emmer/naked wheat (*Triticum* sp.) grain	0.011	*	8200±26	7299–7141	7316–7083
WK41922	109.13/85F2	Floor structure	4	1 wheat (*Triticum* sp.) grain	0.003	*	8239±80	7446–7091	7477–7074
WK41921	110.14/112F2	Occupation debris (bones) on floor	5	1 emmer/naked wheat (*Triticum* sp.) grain	0.004	*	8185±28	7285–7083	7306–7078
OZT757	110.16	Fill beneath burnt floor	6	1 wheat (*Triticum* sp.) grain	0.003	-25.0	8010±60	7056–6828	7073–6700
OZP851	110.20/122F2	Floor structure	6	1 almond (*Amygdalus orientalis/graeca*) nutshell fragment	0.006	-22.3±0.1	8250±45	7348–7182	7456–7085
OZT758	110.23	Fill	7	1 einkorn wheat (*Triticum monococcum*) spikelet fork	0.002	-21.9±0.23	8320±60	7486–7320	7520–7187

OZP852	110.24/128F2	Site fill	8	3 almond (*Amygdalus* sp.) nutshell fragments	0.017	-22.7±0.1	8245±45	7343–7181	7455–7084
WK41920	110.24/128F2	Site fill	8	1 einkorn wheat (*Triticum monococcum*) grain	0.107	*	8279±32	7451–7198	7456–7187
OZT759	111.2	Floor structure	9	1 wheat (*Triticum* sp.) grain	0.004	-22.8 ±0.19	8295±45	7466–7306	7483–7187

Table S4. Full details of AMS radiocarbon results from *in situ* burnt seed stores at Canhasan I, calibration using OxCal 4.2 (IntCal 13 calibration curve (Bronk Ramsey 2009; Reimer *et al*. 2013).

Code	Context	Layer	Material	Weight	Result (years BP)	cal BC (1σ)	cal BC (2σ)
Wk43418	2200	5	1 pea (*Pisum sativum*) seed	0.01	7053±20	5990–5910	6000–5890
Wk43419	2203	5	1 hulled barley (*Hordeum vulgare*) grain and 1 pea seed	0.01	7095±20	6010–5930	6020–5910
Wk43249	1855	5	1 pea seed	0.01	7070±23	6000–5910	6010–5900

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