

INSTITUT ROYAL DU PATRIMOINE ARTISTIQUE  
RADIOCARBON DATES XII

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This list contains the results of  $^{14}\text{C}$  determinations obtained at the laboratory in 1985.  $^*\delta^{13}\text{C}$  values are estimated (Stuiver & Polach, 1977).

GEOLOGIC SAMPLES

*Belgium*

**Western coastal plain of Belgium series**

The following results complete previously pub series (R, 1986, v 28, no. 1, p 71–73) of peat and wood from W Vlaanderen. Coll and subm 1984 by C Baeteman, Geol Service Belgium.

**IRPA-612. Pervijse orthodoxe kerk**  $5810 \pm 70$   
 $^*\delta^{13}\text{C} = -24\text{‰}$

Peat from top of second peat layer, 6.57 to 6.63m below surface at Lampernisse ( $51^\circ 03' 20''$  N,  $2^\circ 47' 32''$  E).

**IRPA-613. Dijk**  $5550 \pm 70$   
 $^*\delta^{13}\text{C} = -24\text{‰}$

Peat from top of second peat layer, 5.80 to 5.85m below surface at Oudekapelle ( $51^\circ 01' 11''$  N,  $2^\circ 48' 10''$  E).

*General Comment* (CB): second regional peat layer occurring at depth –2.5m (absolute level) was dated. The age is identical to all other dates of second peat layer.

**IRPA-614. Westende 4**  $7610 \pm 70$   
 $^*\delta^{13}\text{C} = -24\text{‰}$

Peat from top of base peat, 9.45 to 9.50m below surface at Westende ( $51^\circ 09' 53''$  N,  $2^\circ 46' 47''$  E).

**IRPA-615. Westende 4**  $6780 \pm 80$   
 $^*\delta^{13}\text{C} = -24\text{‰}$

Peat from base of base peat, 9.56 to 9.61m below surface at Westende ( $51^\circ 09' 53''$  N,  $2^\circ 46' 47''$  E).

**IRPA-616. Woestyne**  $8120 \pm 100$   
 $^*\delta^{13}\text{C} = -24\text{‰}$

Peat from top of base peat, 17.67 to 17.75m below surface at Adinkerke ( $51^\circ 03' 40''$  N,  $2^\circ 34' 50''$  E).

- IRPA-617. Jacobs 1** **5710 ± 70**  
 $*\delta^{13}C = -24\text{‰}$   
Peat from top of base peat, 5.96 to 6.00m below surface at Oudekappelle (51° 01' 30" N, 2° 49' 45" E).
- IRPA-618. Jacobs 2** **5720 ± 70**  
 $*\delta^{13}C = -24\text{‰}$   
Wood from top of base peat, 5.88 to 5.93m below surface at Oudekappelle (51° 01' 30" N, 2° 49' 45" E).
- IRPA-677. Gasthuis** **9190 ± 190**  
 $*\delta^{13}C = -27\text{‰}$   
Humic acids from base peat, 18.13 to 18.20m below surface at Adinkerke (51° 05' N, 2° 36' 25" E).
- IRPA-678. Gasthuis** **7620 ± 90**  
 $*\delta^{13}C = -27\text{‰}$   
Peat from base peat, 17.81 to 17.83m below surface at Adinkerke (51° 05' N, 2° 36' 25" E).
- IRPA-680. Schoudervliet** **9940 ± 110**  
 $*\delta^{13}C = -27\text{‰}$   
Peat from base of base peat, 20.16 to 20.21m below surface at Wulpen (51° 05' 30" N, 2° 42' 15" E).
- IRPA-681. Schoudervliet** **8440 ± 130**  
 $*\delta^{13}C = -27\text{‰}$   
Peat from top of base peat, 19.83 to 19.88m below surface at Wulpen (51° 05' 30" N, 2° 42' 15" E). Diluted; 84.7% sample.
- IRPA-734. Oostkerke** **8170 ± 90**  
 $*\delta^{13}C = -27\text{‰}$   
Peat from base of base peat, 20.50 to 20.54m below surface at Oostkerke (51° 02' 40" N, 2° 43' 30" E).  
*General Comment (CB):* basal peat of Holocene sequence was dated and ages correspond with trend of transgression sea-level in that area, except in IRPA-734, where basal peat started to grow in pre-existing Pleistocene depression, independent of sea-level rise.
- IRPA-682. Schoudervliet** **4540 ± 60**  
 $*\delta^{13}C = -27\text{‰}$   
Peat from base of upper peat layer, 3.19 to 3.24m below surface at Wulpen (51° 05' 30" N, 2° 42' 15" E).
- IRPA-721. B753** **4790 ± 90**  
 $*\delta^{13}C = -27\text{‰}$   
Peat from base of upper peat layer, 3.52 to 3.60m below surface at Ramskapelle (51° 05' 15" N, 2° 47' 25" E).

*General Comment* (CB): ages of base of first regional peat layer or surface peat agree, indicating that Subboreal peat growth started between 4800–4500 BP.

**IRPA-722. B746** **5490 ± 100**  
*\*δ<sup>13</sup>C = -27‰*

Peat from base of base peat, 4.30 to 4.40m below surface at Schoorbakke (51° 05' 58" N, 2° 50' 45" E). Diluted; 61.83% sample.

**IRPA-723. B747** **4990 ± 70**  
*\*δ<sup>13</sup>C = -27‰*

Peat from base of base peat, 2.55 to 2.65m below surface at Leke (51° 05' 40" N, 2° 51' E).

**IRPA-724. B755** **6380 ± 110**  
*\*δ<sup>13</sup>C = -27‰*

Peat from base of second peat layer, 5.85 to 5.90m below surface at Booitshoeke (51° 05' 30" N, 2° 44' 35" E). Diluted; 55.5% sample.

**IRPA-725. B742** **5970 ± 120**  
*\*δ<sup>13</sup>C = -27‰*

Peat from base of base peat, 5.05 to 5.20m below surface at Schore (51° 06' 30" N, 2° 50' 35" E). Diluted; 51.35% sample.

**IRPA-679. Langeleed** **4880 ± 70**  
*\*δ<sup>13</sup>C = -27‰*

Peat from erosion layer, 10.60 to 10.65m below surface at Oostduinkerke (51° 06' 20" N, 2° 41' 30" E).

**IRPA-726. Nieuwpoort 2** **4220 ± 60**  
*\*δ<sup>13</sup>C = -27‰*

Peat from base peat, 5.65 to 5.72m below surface at Nieuwpoort (51° 07' 38" N, 2° 53' 20" E).

**IRPA-727. Nieuwpoort 2** **3580 ± 60**  
*\*δ<sup>13</sup>C = -27‰*

Peat from top peat, 5.23 to 5.27m below surface at Nieuwpoort (51° 07' 38" N, 2° 53' 20" E).

**IRPA-728. De Panne** **1640 ± 50**  
*\*δ<sup>13</sup>C = -27‰*

Peat from 1.75 to 1.85m below surface at De Panne (51° 05' 38" N, 2° 34' 13" E).

**IRPA-729. Noordhoek** **5770 ± 100**  
*\*δ<sup>13</sup>C = -27‰*

Peat from base of base peat, 6.13 to 6.20m below surface at Leffinge (51° 11' 05" N, 2° 53' 20" E). Diluted; 63.17% sample.

**IRPA-730. Noordhoek** **2220 ± 50**  
 $^{*}\delta^{13}C = -27\text{‰}$   
Peat from top of base peat, 3.62 to 3.66m below surface at Leffinge (51° 11' 05" N, 2° 53' 20" E).

**IRPA-731. Antoine** **5680 ± 70**  
 $^{*}\delta^{13}C = -25\text{‰}$   
Shells (*Cardium*) from storm level, 0.50 to 0.57m below surface at Adinkerke (51° 03' 05" N, 2° 34' 10" E).

**IRPA-722. Antoine** **2690 ± 60**  
 $^{*}\delta^{13}C = -27\text{‰}$   
Peat from 0.31 to 0.35m below surface at Adinkerke (51° 04' 05" N, 2° 34' 10" E). *Comment* (CB): age of vegetation layer, covered with dunes, agrees with dates of similar situations in area.

**IRPA-742. Middelkerke** **1240 ± 50**  
 $^{*}\delta^{13}C = -25\text{‰}$   
Shells (*Cardium*) from storm deposition at Middelkerke (51° 12' N, 2° 50' 45" E). *Comment* (CB): result, expected to belong to Dunkerke II transgression, was younger.

### Zonien Forest series

Charcoal fragments from alluvial deposits in Zonien Forest, Brussels. Coll Sept 1984 and subm Dec 1984 by J Sanders, Univ Gent, Belgium.

**IRPA-654. Auderghem** **1570 ± 80**  
 $^{*}\delta^{13}C = -25\text{‰}$   
Charcoal fragments at 100cm below surface (50° 48' 08" N, 4° 26' 50" E).

**IRPA-655. La Hulpe** **2900 ± 90**  
 $^{*}\delta^{13}C = -25\text{‰}$   
Charcoal fragments at 110cm below surface (50° 44' 15" N, 4° 26' 30" E). Diluted; 19.47% sample.

**IRPA-656. Hoeilaart** **1750 ± 90**  
 $^{*}\delta^{13}C = -25\text{‰}$   
Charcoal fragments at 130cm below surface (50° 44' 45" N, 4° 25' 30" E).

**IRPA-657. Tervuren** **2170 ± 50**  
 $^{*}\delta^{13}C = -25\text{‰}$   
Charcoal fragments at 130cm below surface (50° 48' 19" N, 4° 28' 13" E).

**IRPA-658. Watermael-Boisfort** **1580 ± 50**  
*\*δ<sup>13</sup>C = -25‰*

Charcoal fragments at 70cm below surface (50° 47' 51" N, 4° 27' 05" E).

*General Comment* (JS): IRPA-654, -656, -657 and -658, sampled from same stratigraphic unit, reflect alluvial activity which was at least active during period of charcoal deposition. Charcoal is probably anthropogenic in origin.

**Shell coastal series**

Samples from coastal plain dated to obtain standard for <sup>14</sup>C dating of sea shells. Subm March 1985 by R De Ceunynck, Univ Gent.

**IRPA-706. Koksijde KKW/M1** **5360 ± 70**  
*\*δ<sup>13</sup>C = -25‰*

Shells (*Cerastoderma edule*, simple valves) at 2.7m below surface (51° 07' 51" N, 2° 42' 40" E).

**IRPA-707. Nieuwpoort-haven** **480 ± 50**  
*\*δ<sup>13</sup>C = -25‰*

Shells (*Cerastoderma edule*, valves) coll 1901 from Nieuwpoort harbor, supposedly taken when they were still living. No coordinates available.

**IRPA-708. Bredene** **2070 ± 50**  
*\*δ<sup>13</sup>C = -25‰*

Shells (*Cerastoderma edule*, double valves) from archaeol layer at Roman site in Bredene (51° 14' 24" N, 2° 57' 33" E). Coll 1985 by H Thoen, Univ Gent.

**IRPA-709. Koksijde** **Modern**  
*\*δ<sup>13</sup>C = -25‰*

Shells (*Mytilis edulis*, double valves) from beach of Koksijde; no coordinates. Coll June 1922 by P Dupuis.

*General Comment* (RDeC): results are rather disappointing; both IRPA-707 and -709 were expected to give result close to their real age; only IRPA-709 yielded acceptable age; for IRPA-707, uncertain sampling conditions may be blamed. IRPA-708 was subm as test sample; its archaeol age is estimated at AD 50–100, which agrees well with obtained <sup>14</sup>C date. IRPA-706 was subm as “unknown age sample”; its age was estimated to be not older than 3000 BP. Result is much older; it may have been reworked older material. In general, results are rather inconsistent.

**Oosterweel series**

Samples from Oosterweel, Antwerpen (51° 14' 35" N, 4° 23' 10" E). Coll and subm 1985 by P Kiden, Univ Gent, and K Leenders, Rotterdam.

**IRPA-652. Oosterweel 3** **1630 ± 50**  
*\*δ<sup>13</sup>C = -27‰*  
Top of peat under Oosterweel's church.

**IRPA-713. Oosterweel 1** **3890 ± 60**  
*\*δ<sup>13</sup>C = -27‰*  
Base of peat.

**IRPA-714A. Oosterweel 2A** **1840 ± 60**  
*\*δ<sup>13</sup>C = -27‰*  
Wood from top of peat.

**IRPA-714B. Oosterweel 2B** **1300 ± 50**  
*\*δ<sup>13</sup>C = -27‰*  
Top of peat.

*General Comment (PK):* date of IRPA-713 is as expected with respect to absolute height of sample. Wood sample IRPA-714A, from top, seems to be too old compared to peat samples IRPA-714B and -652 from ca 30cm below top of peat.

#### Wintham series

Samples from Scheldt R alluvial deposit at Wintham, O Vlaanderen (51° 07' 08" N, 4° 18' 15" E). Coll and subm 1985 by P Kiden.

**IRPA-712. Zeesluis 1** **4220 ± 60**  
*\*δ<sup>13</sup>C = -27‰*  
Peat at 1.10m depth.

**IRPA-741. Zeesluis 2** **5110 ± 70**  
*\*δ<sup>13</sup>C = -27‰*  
Peat at 2.0m depth.

**IRPA-740. Zeesluis 3** **5550 ± 80**  
*\*δ<sup>13</sup>C = -27‰*  
Peat at 2.85m depth.

*General Comment (PK):* dates agree with absolute height with respect to contemporaneous sea level and possible flood basin and river gradient effects (Van De Plassche, 1982), and show gradual rise of local water level in Scheldt alluvial plain under influence of rising sea level.

**IRPA-665. Bred top VI** **4380 ± 60**  
*\*δ<sup>13</sup>C = -27‰*  
Peat from Bredene, W Vlaanderen (51° 14' 28" N, 2° 58' 42" E) at 0.15m depth. Coll Nov 1984 by F Mostaert and subm Feb 1985 by C Verbruggen, Univ Gent. *Comment (CV):* lagoonal clay intercalated between two peat layers. Sample from base of upper peat. Date confirms expectations based on position in stratigraphic context.

*The Netherlands*

- IRPA-649. Brouwersmoer** **2640 ± 60**  
\* $\delta^{13}C = -27\text{‰}$   
Peat from Zundert (51° 29' 08" N, 4° 36' 08" E). Coll and subm Oct 1985 by C Verbruggen. *Comment* (CV): thin but complete remnant layer of peat bog excavated in 17th century. Sample from lower part of sequence. Date is in perfect agreement with pollen analysis.

*Africa*

**Zaire series**

Calcareous crust and organic material from Natl Park of Virunga, Zaïre (0° 30' S, 29° 10' E). Coll 1979 and subm Dec 1984 by M Vanoverstraeten, Fac Agronom Gembloux, Belgium. Dates are part of morphol and pedol study in Western African Rift where soils and calcareous crusts are assoc.

- IRPA-646. 2450** **11,990 ± 130**  
\* $\delta^{13}C = -25\text{‰}$   
Calcareous crust. Pretreated with 37% HCl until 50% weight loss.

- IRPA-647. 0508** **11,400 ± 130**  
\* $\delta^{13}C = -25\text{‰}$   
Calcareous crust. Same pretreatment as above.

- IRPA-648. 6404 II** **9280 ± 100**  
\* $\delta^{13}C = -25\text{‰}$   
Calcareous crust. Same pretreatment as above.

- IRPA-668.** **Modern**  
\* $\delta^{13}C = -25\text{‰}$   
Organic material. Humic acids extraction; diluted; 55.9% sample.

- IRPA-669.** **460 ± 50**  
\* $\delta^{13}C = -25\text{‰}$   
Organic material. Humic acids extraction.

- IRPA-670.** **Modern**  
\* $\delta^{13}C = -25\text{‰}$   
Organic material. Humic acids extraction.

- IRPA-671.** **Modern**  
\* $\delta^{13}C = -25\text{‰}$   
Organic material. Humic acids extraction.

- IRPA-672.** **Modern**  
\* $\delta^{13}C = -25\text{‰}$   
Organic material. Humic acids extraction.

**IRPA-623. Malha Lake** **8290 ± 150**  
*\*δ<sup>13</sup>C = -25‰*

Organic material from Darfur, Sudan, no coordinates. Coll and subm Nov 1985 by H Dumont, Univ Gent. Humic acids extraction; diluted; 50.46% sample.

*Asia*

### Bangladesh series

Samples from Bangladesh. Coll April 1984 and subm Jan 1985 by H Mohammad, Geol Inst, Free Univ. Brussels.

**IRPA-659. S1** **3670 ± 60**  
*\*δ<sup>13</sup>C = -27‰*  
Peat at 170cm depth from Kachpur (23° 41' 05" N, 90° 30' E).

**IRPA-660. S2** **6060 ± 70**  
*\*δ<sup>13</sup>C = -27‰*  
Peat at 260cm depth from Kachpur (23° 41' 05" N, 90° 30' E).

**IRPA-661. S4** **6460 ± 80**  
*\*δ<sup>13</sup>C = -27‰*  
Peat at 280cm depth from Kachpur (23° 41' 05" N, 90° 30' E).

**IRPA-662. S3** **5580 ± 70**  
*\*δ<sup>13</sup>C = -27‰*  
Peat at 150cm depth from Karampur (23° 52' N, 91° 13' E).

**IRPA-663. S4** **5620 ± 80**  
*\*δ<sup>13</sup>C = -27‰*  
Peat at 210cm depth from Karampur (23° 52' N, 91° 13' E).

**IRPA-664.** **6390 ± 80**  
*\*δ<sup>13</sup>C = -27‰*  
Peat from 600cm depth from W Bank Lakla (23° 41' 05" N, 90° 30' E).

*General Comment (HM):* dates seem to be accurate and they are satisfactory. They have added points to evolutionary history of area.

#### ARCHAEOLOGIC SAMPLES

#### *Belgium*

### Wenduine series

Samples from Wenduine, W Vlaanderen (51° 17' 50" N, 3° 04' 02" E). Coll May 1984 and subm July 1985 by H Thoen, Univ Gent, Belgium.

**IRPA-716. WEN 84/1** **1930 ± 50**  
*\*δ<sup>13</sup>C = -24‰*  
Wood (*Alnus*).



**IRPA-717. WEN 84/2** **1860 ± 50**  
\* $\delta^{13}C = -24\text{‰}$   
Wood (*Alnus*).

**IRPA-718. WEN 85/7** **4940 ± 70**  
\* $\delta^{13}C = -24\text{‰}$   
Wood (*Quercus*).

**IRPA-719. WEN 85/9** **3670 ± 60**  
\* $\delta^{13}C = -24\text{‰}$

*General Comment* (HT): IRPA-716 and -717 agree with archaeol date: Roman period. IRPA-718 and -719 point to re-use of exceptionally well-preserved wood recovered from coastal plain peat fm in Roman times; indeed, IRPA-718 concurs with base of peat and IRPA-719 with middle part of it.

**IRPA-645. Lele 84/1C'** **2480 ± 60**  
\* $\delta^{13}C = -24\text{‰}$

Wood from well in Lede, O Vlaanderen (50° 58' N, 4° 0' E). Coll July 1984 by W de Swaef and subm Nov 1985 by J Nenquin, Univ Gent. La Tène date is expected.

**IRPA-666. Kouter** **990 ± 50**  
\* $\delta^{13}C = -24\text{‰}$

Wood from medieval ditch along best known arable land. Complex (Kouter) in Gent, O Vlaanderen (51° 03' N, 3° 43' 40" E). Subm Feb 1984 by C Verbruggen, Univ Gent. *Comment* (CV): scarce archaeol findings point to date between 11th and 13th century AD. Pollen analysis shows *Secale* and *Centaurea cyanus*.

**IRPA-653. DO18-20/4 DO19-20/4** **1450 ± 80**  
\* $\delta^{13}C = -25\text{‰}$

Charcoal from colian sand layer (leaching A2-horizon) in Donk, Limburg (50° 56' 57" N, 5° 07' 35" E) at 70cm depth. Coll and subm Dec by PM Vermeersch, Univ Leuven, Belgium. Diluted; 55% sample. No agreement with archaeol date.

### Donk series

The following results complete pub list (R, 1984, v 26, no. 3, p 390) of samples from multicomponent site in Donk, Limburg (50° 56' N, 5° 07' 30" E). Subm 1985 by L Van Impe, Natl Service Excavations, Belgium.

**IRPA-688. 84DO820** **2410 ± 70**  
\* $\delta^{13}C = -24\text{‰}$

Charcoal from pit. Groove LXVIII. Diluted; 66.38% sample. No NaOH pretreatment. Iron Age period expected.

- IRPA-689. 84DO839** **2350 ± 50**  
 $*\delta^{13}C = -24\text{‰}$   
Charcoal from pit. Groove LXVII. No NaOH pretreatment. Iron Age period expected.
- IRPA-690. 84DO880 A** **2320 ± 60**  
 $*\delta^{13}C = -24\text{‰}$   
Charcoal from pit. Groove LXIX; Iron Age period expected.
- IRPA-691. 84DO880 C** **2490 ± 60**  
 $*\delta^{13}C = -24\text{‰}$   
Charcoal from pit. Groove LXIX. Iron Age period expected.
- IRPA-692. 84DO883** **3400 ± 90**  
 $*\delta^{13}C = -24\text{‰}$   
Charcoal from pit. Groove LXIX. Diluted; 54.15% sample. Iron Age period expected.
- IRPA-693. 84DO895** **2480 ± 60**  
 $*\delta^{13}C = -24\text{‰}$   
Charcoal from pit. Groove LXIX. Iron Age period expected.
- IRPA-694. 84DO999** **2590 ± 60**  
 $*\delta^{13}C = -24\text{‰}$   
Charcoal from pit. Groove LXXV. Iron Age period expected.
- IRPA-696. 80DO410** **1740 ± 50**  
 $*\delta^{13}C = -24\text{‰}$   
Wood from Roman well. Groove XXXI.
- IRPA-697. 80DO411** **1800 ± 50**  
 $*\delta^{13}C = -24\text{‰}$   
Wood from Roman well. Groove XXXI.
- IRPA-698. 80DO415** **1840 ± 60**  
 $*\delta^{13}C = -24\text{‰}$   
Wood from Roman well. Groove XXXI.
- IRPA-699. 83DO677** **1980 ± 50**  
 $*\delta^{13}C = -24\text{‰}$   
Wood from Roman well. Groove LVII.
- IRPA-700. 83DO745** **1550 ± 50**  
 $*\delta^{13}C = -24\text{‰}$   
Wood from Roman well. Groove LX.
- IRPA-701. 83DO746** **1110 ± 50**  
 $*\delta^{13}C = -24\text{‰}$   
Wood from well. Groove LIX-A. Middle Ages date expected.

**IRPA-702. 84DO773** **3670 ± 80**  
*\*δ<sup>13</sup>C = -24‰*

Charcoal from grave. Groove LXVII. Diluted; 74.23% sample. No NaOH pretreatment. Roman period expected.

**IRPA-703. 84DO919** **1830 ± 90**  
*\*δ<sup>13</sup>C = -24‰*

Charcoal from grave. Groove LXXVI. Diluted; 44.33% sample. No NaOH pretreatment. Roman period expected.

*General Comment* (L VI): most dates agree with expected archaeol ages. IRPA-688 to -694 coincide with other Iron Age dates and will help establish more reliable chronology of Iron Age ceramics in Campine region. IRPA-696 to -700 were coll from wooden wells (without datable finds) and dates will help relate them to succeeding settlements in Roman period. Dates agree in general with expected ages. IRPA-700, however, seems a bit too young, IRPA-701, coll from a wooden well, belongs to medieval priory. IRPA-703, charcoal coll from burial grave, can be assoc with IRPA-509: 1740 ± 80 BP coll in Germanic Grulenhau. IRPA-692 (expected Iron Age) and IRPA-702 (same expected age as IRPA-703) are too old. However, results will not be rejected without further archaeol analysis of finds.

### Sugny series

Samples from same site as IRPA-584 in Sugny, Namur (49° 50' N, 4° 54' E) are remnants of fire-destroyed upper parts of stone keep. Coll July 1982 and subm Feb 1985 by A Matthijs, Natl Service Excavations, Belgium.

**IRPA-683. 82SU14** **1110 ± 50**  
*\*δ<sup>13</sup>C = -24‰*

Charcoal.

**IRPA-684. 82SU6** **1140 ± 50**  
*\*δ<sup>13</sup>C = -24‰*

Charcoal.

*General Comment* (AM): IRPA-584 is stratigraphically previous to IRPA-683 and -684. These two samples must be contemporaneous, which is confirmed by <sup>14</sup>C analyses. Nevertheless, dates do not match traditional archaeol dating of structures (AD 10th–11th centuries) and are much older. Analyzed remnants come from full-grown construction logs, which give average date much before cutting date of trees.

**IRPA-715. 82WE82** **1690 ± 60**  
*\*δ<sup>13</sup>C = -24‰*

Charcoal from pit in Wellin, Luxembourg (50° 05' N, 5° 07' E) at 2m depth. Coll Aug 1982 by M Evrard and subm June 1985 by A Matthijs.

*Italy***Artena series**

The following results complete pub list (R, 1981, v 3, p 350) of samples from occupation layer at Artena, Prov Rome (41° 43' N, 12° 57' E). Coll Sept 1984 and 1985 and subm 1985 by R Lambrechts, Univ Louvain, Belgium.

**IRPA-705. 84-AR-B-V** **1380 ± 50**  
\* $\delta^{13}C = -24\text{‰}$

Charcoal with rootlets. Date is too young.

**IRPA-735. 85-AR-B-XIA** **2390 ± 50**  
\* $\delta^{13}C = -24\text{‰}$

Charcoal from fill of cistern.

**IRPA-736. 85-AR-B-XIB** **2280 ± 60**  
\* $\delta^{13}C = -24\text{‰}$

Charcoal from fill of cistern.

**IRPA-737. 85-AR-B-XIC** **2090 ± 70**  
\* $\delta^{13}C = -24\text{‰}$

Charcoal from fill of cistern. Diluted; 73.34% sample.

**IRPA-738. 85-AR-B-XID** **2350 ± 50**  
\* $\delta^{13}C = -24\text{‰}$

Charcoal from fill of cistern.

**IRPA-739. 85-AR-B-XIE** **2230 ± 80**  
\* $\delta^{13}C = -24\text{‰}$

Charcoal from fill of cistern. Diluted; 57.19% sample.

## ART SAMPLES

**IRPA-685. Bodhisattva Maitreya** **130 ± 50**  
\* $\delta^{13}C = -25\text{‰}$

Wood from Chinese statue, Wei period. Subm 1985 by J Tirtiaux, antiquarian, Brussels. No NaOH pretreatment.

**IRPA-711. AAM65-13-1** **1330 ± 50**  
\* $\delta^{13}C = -24\text{‰}$

Wood (bamboo) from Peru's boom, Chancay period. Expected age: AD 1100–1450. Date is same as L-384a: AD 570 ± 160.

## REFERENCES

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